STIC-Biotech/ChemLib

2 160624

From:

Sent:

Ibrahim, Medina A. Tuesday, July 26, 2005 6:18 PM STIC-Biotech/ChemLib

To:

Subject:

09/765, 555

Please search the following:

Please search the following:

1. DNA encoding SEQ ID NO: 14- 18. Thanks

Medina A. Ibrahim Patent Examiner, GAU-1638 transgenic plants and plant breeding Remsen-2B07 mailbox-2C18 (571) 272-0797

STAFF USE ONLY

Online Time:

Searcher: Searcher Phone: 2-Date Searcher Picked Date Completed:_ Searcher Prep/Rev. Time:

Type of Search Interference: SPDI: Oligomer:_ S/L:_ Encode/Transl:_ Structure#:_ Inventor:____ Litigation:_

Vendors and cost where applicable STN: DIALOG: QUESTEL/ORBIT: LEXIS/NEXIS: SEQUENCE SYSTEM: www/Internet: Other(Specify):

THIS PAGE BLANK (USPTO)

DKFZp5660 B0156F05-

HH06A02y

K0994C10-

DKFZp586H DKFZp434J

DKFZp566C hggada2H1

DKFZp434D

B0192A07-

CG862524 IAL048427 IAL042909 ICA881974 IAL038811 ICA890032 ICA8862099 ICA8862099 ICA895436 IAL0344407 ICA895436 IAL0394397 ICA895436 IAL039589 IAL039589 IAL039589 IAL039589 IAL039589 IAL039589 ICA887583 ICA887583 ICA887583 ICA8873409 ICA873409 ICA87

DKFZp434D B0137H04-DKFZp434G HH04K05w

DKFZp566K

HHO3F14u

us-09-765-555b-16.rst

Perfect score:

ritle:

Sequence:

OM nucleic

Run on:

Scoring table:

Searched:

DB DB

Minimum I Maximum I

Database

```
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes incertae sedis; Phyllachorales; Phyllachoraceae;
mitosporic Phyllachoraceae; Colletotrichum.

It (bases 1 to 794)
Samac, D.A., Dickman, M., Town, C.D., Van Aken, S., Utterback, T., Cheung, F. and Fraser, C.M.
ESTS from mycelia of Colletotrichum trifolii race 1
Unpublished (2002)
Other ESTS: EST61249
Contact: Deborah A. Samac
Department of Plant Pathology
University of Minnesota
495 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108, USA
Tel: 612 625 1243
Fax: 651 649 5058
Email: debbys@puccini.crl.umn.edu
TICR sequence name: MTSAH6/TV More information is available at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BQ751936 794 bp mRNA linear BST 18-JUL-2002 EST632499 DSCT Colletotrichum trifolii cDNA clone pDSCT8-67, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="pDSCT8-67"
/tissue_type="mycelia"
/tissue_type="mycelia"
/dev stage="Young, actively growing mycelia (3 days after inoculation) grown in liquid culture (cutin minimal medium containing 2%glucose)."
/lab_host="DHSalpha"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=_vector: pBluescript SK+; Site_1: EcoRI; Site_2: EcoRI; isolate: 2sp2 ; cDNA was prepared from polyA+ erriched RNA The cDNA was ligated into Lambda gtl11 from Stratagene and packaged using Gigapack packaging extracts. An aliquot of the amplified library was used to transduce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        www.medicago.org
Seq primer: (gtA AtA CgA CtC ACt AtA ggg C).
Location/Qualifiers
Location/Qualifiers
1. 794
    /organism="Colletotrichum trifolii"
    /mol_type="mRNA"
    /strain="race 1"
    /db_xref="taxon:5466"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALIGNMENTS
                                                                                                                     AL042909
CA881974
CA890031
CA862099
CA862099
CA895436
AL039076
AL039075
CCA994397
AL039128
AL039589
CA897583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                clone lib="DSCT"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BQ751936
BQ751936.1 GI:21907341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Colletotrichum trifolii
Colletotrichum trifolii
   545.2
534.0.2
534.0.2
534.4
529
529
529
519.4
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
510.2
51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 1
BQ751936
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
      EST631783
HH04A08Y
DKFZD566E
AY080106
DKFZD4341
BJ063872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST632499
hggada4D0
218n06.pl
EST632218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HH07B20y
DKFZp434B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKFZp434C
hggada1B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DKFZp434A
PRI0130b
                                                                                                                                                                                                        2005, 10:29:49; Search time 6743.2 Seconds (without alignments) 18627.964 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRI0124a_
AY080094_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKFZp564I
B0195F10-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKFZp564C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKFZp434L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKFZp434B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AV594538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                 1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CK394523
BQ751853
BQ751220
CB863541
AC03654
AC03654
AL04443
AL04535
CCESS57
AC68537
AC68537
AC68537
AC68537
AC68537
AC68533
AC6853
AC68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BQ751936
                            GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34239544 segs, 19032134700 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                  nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AL038548
AY080106
AL044483
AL044483
AL043872
CL655575
CL655575
AL04588
AL043868
AL043868
AL043868
AL043868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CL658017
AL039416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AL045341
AL037051
CA895956
                                                                                                                                                                                                                                                                                                                                                                                                                                                       IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                 US-09-765-555B-16
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9b est1:

9b est2:

9b htc:

9b est4:

9b est6:

9b est6:

9b est6:

9b gss1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7112
7100
6600
6641
6624
7752
6608
6608
7782
7782
7783
7783
7783
7783
                                                                                                                                                                                                               7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               223.1
222.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
220.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
200.9
```

755.4 684.8 676.4 676.4 641.4 641.8 612.8 612 603 589.8 581.2 579

Result

570 569

563.2 562.6 549.4 546.8 545.4

```
E. coli Y1090 and phage DNA was purified from a liquid lysate. The cDNA inserts were gel purified after EcoRI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DHSalpha which were plated onto medium with X-gal for selection of recombinants."
                                                                                                                         ö
                                                                                                                                                                                             122
                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                             182
                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                            242
                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                          302
                                                                                                                                                                                                                                                                                                                                                        CAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                  GOGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                   422
                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             722
                                                                                                                                                62
                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                        CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                      GTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAACG
                                                                                                                                                                                                                                                     CAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                           GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                GACACTITCGAATGGCGCAAAACCITTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                         61 CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                     CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGGTGTCGATGGTAGAACGAACGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCGCGCAACGCGTCAGTGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                drescarrissicaccascaaarescererrascessecearraastrerereres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACGGGAAGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                        .
,
                                                                                             tch
23.6%; Score 778; DB 5; Length 794;
al Similarity 98.7%; Pred. No. 1.3e-217;
784; Conservative 0; Mismatches 10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGGGCATCGTTCC 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGGGCATCGTTCC 794
                                                                                                                                                                                          63
                                                                                             Query Match
Best Local S
                                                                                                                                                                                                                                       123
                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                  303
                                                                                                                                                                                                                                                                                                                                                                                                                                 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                   Matches
                                                                     DRIGIN
                                                                                                                                                             용
                                                                                                                                                                                       ò
                                                                                                                                                                                                       යි යි
                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음
```

```
ô
                                                                                                                                                         Davis
                                                                                                                                                                                                                                                                                 CDNA Library, single pass
                                                  Heterodera glycines
Heterodera glycines
Eukaryota, Metazoa, Nematoda, Chromadorea, Tylenchina,
Tylenchoidea, Heteroderidae, Heteroderinae, Heterodera.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ccadraacerraracearercecadagrarecederercrrrarcadacerrrecec 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                       E 1 (Dases 1 to 779)

Wang,X., Allen,R., Gao,B., Goellner,M., Maier,T., Baum,T., Hussey,X. and Davis.E.
Submission: Wang, Allen, Gao, Goellner, Maier, Baum, Hussey, Davis Contact: Tom Maier
Department of Plant Pathology, Baum Lab
Iowa State University
351 Bessey Hall, Ames, IA 50011, USA
Tel: 515-294-8854
Fax: 515-294-9420
Email: trmaler@lastate.edu
Heterodera glycines Gland Cell Amplified cDNA Library, single pas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTGGTGAACCAGGCCAGGCACGTTTCTGCGAAAACGCGGGAAAAAGTGGAAAGCGGCGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            659 GCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      267 CTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   599 chdarhddcdridccacchcdadrchddccacdcdcdcdcdcddaahhdrddcdddd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                  /organism="Heterodera glycines"
/mol_type="mRNA"
/db_xref="taxon:51029"
/cell_type="mixed parasitic juvenile"
/dev_stage="mixed parasitic juvenile"
/clone_lib="Gland Cell Amplified cDNA Library"
/note="Organ: gland cell; Vector: pSportII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    779;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 770.6; DB 7;
Pred. No. 2e-215;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                                          Location/Qualifiers
           CK394523
CK394523.1 GI:40389794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 23.4%;
Best Local Similarity 99.4%;
Matches ,773; Conservative
 sednence
mRNA
                                                                                                                                                                                                                                                                                               sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299
        ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                 TITLE
JOURNAL
                                                                                                         REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

CK394523/c LOCUS DEFINITION

RESULT

CK394523 77-9 bp mRNA linear E9T 30-DEC-2003 hggada4D08 Gland Cell Amplified cDNA Library Heterodera glycines

m

ö

504

9

564 180 624 240

300 744 360 804

LOCUS

RESULT 3 CK118014

ACCESSION VERSION KEYWORDS SOURCE

ORGANISM

REFERENCE AUTHORS TITLE

JOURNAL COMMENT

420

864 480 924 540 984 900

8

ઠે

ઠે

셤

셤

ठे

ò

g

```
BQ751655 10-JUL-2002 T93 bp mRNA linear EST 18-JUL-2002 EST632218 DSCT Colletotrichum trifolii cDNA clone pDSCT6-59, mRNA
                                                                                                                                                                                                 Colletotrichum trifolii
Colletotrichum trifolii
Colletotrichum trifolii
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes incertae sedis; Phyllachorales; Phyllachoraceae;
mitosporic Phyllachoraceae; Colletotrichum.
1 (bases 1 to 793)
Samac,D.A., Dickman,M., Town,C.D., Van Aken,S., Utterback,T.,
Cheung,F. and Fraser,C.M.
ESTS from mycelia of Colletotrichum trifolii race 1
Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 ATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 CCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGGATCGTTCCCACTGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATACGCAAACCGCCTCTCCCCGCGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661 CACTGGTGAAAAGAAAACCACCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGT
                                                             385 GCGGCGTCGAAGCCTGTAAAGCCGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                                          GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                                                                                                                      ATGTTCCGCCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                  CCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGA
  Gaps
  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAA 1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721 TGGCCGATTCATTAATGCAGCTGGCACGGCTTTCCCGACTGGAAA 768
  Indels
  ;
0
     Mismatches
  ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence.
BQ751655
BQ751655.1 GI:21907060
     Conservative
  768;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1105
                                                                                                                                                                                                                                                                                      505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1045
                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                     265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 4
BQ751655
                                                                                                                                                                                                                        윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Entaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Entaryota; Viridiplantae; Streptophyta; Endicotyledons; core eudicots; rosids; europhyta; eudicotyledons; core eudicots; rosids; europhyta; eudicotyledons; core eudicots; rosids; europhyta; eudicotyledons; core eudicots; rosids; europhyta; eudicots; rosids; europhyta; eudicots; europhyta; eudicots; europhyta; eudicots; europhyta; europhyta; eudicots; europhyta; europhyta; eudicots; eudicots; europhyta; europhyta; eudicots; europhyta; eudicots; eudicots; europhyta; eudicots; eudicots; europhyta; eudicots; eudicots; eudicots; europhyta; eudicots; eudicots; eudicots; europhyta; eudicots; eudicots; eudicots; eudicots; europhyta; eudicots; eudicots; europhyta; eudicots; eudicots; eudicots; europhyta; eudicots; eudicots; eudicots; europhyta; eudicots; eudicots; eudicots; europhyta; eudicots; eudicots; europhyta; eudicots; e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /moi type="mcNub"
/moi type="mcNub"
/moi type="mcNubia"
/db_xref="razon:3702"
/db_xref="razon:3702"
/db_xref="razon:3702"
/db_xref="razon:3702"
/clone="mRMGp2011N06218"
/tissue_type="inflorescence meristem"
/dev_stage="about one week after bolting"
/dev_stage="bout one week after bolting"
/doc="vector: pQE-30NAST-attB (AY386205); Site_1: Sall;
/clone_lib="AtM1"
/note="vector: pQE-30NAST-attB (AY386205); Site_1: Sall;
Site_2: Not1; About 1 week after bolting, cDNA synthesis
using SuperscriptTM-system (Invitrogen) with an
oligo(dT)-primer containing Not1 restriction site and a
Sall adapter. The main library (plate numbers begin with
1) of 38,000 clones was rearrayed into the sublibrary
(plate numbers begin with 201) containing 5,000 putative
expression clones. Average insert size is 1 kb. Note: The
rearrayed sublibrary (plate numbers begin with 201) was
sequenced. Library generation and sequencing was granted
in context of GABI-LARP; data are also accessible at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              769 bp mRNA linear BST 01-JUN-2004
5-PRIME, mRNA sequence.
CK118014
                                                       180
                                                                                                               746
                                                                                                                                            989
                                                                                                                                                                                                                        747 ATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATG 806
                                                                                                                                                                                                                                                        807 CTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGGCCATTACCGAGTCCGGGC 864
~
                                                                                                               AAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCC
                                                                                                                                                                                                                                                                                                                                                                       CTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 769;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23.3%; Score 768; DB 7; Lt 100.0%; Pred. No. 1.2e-214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: Kersten@molgen.mpg.de
Insert Length: 769 Std Error: 0.00
Plate: 218 row: N column: 6
Seg primer: pQE65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CK118014.1 GI:47828330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                               687
                                                                                                                                                                                                                                                                                119
                                                                                                                                                                                                                                                                                                                                                                                               5
```

source

ORIGIN

FEATURES

1104

662

722

782

542

```
Colletotrichum trifolii

Colletotrichum trifolii

Edwaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sukaryota; Fungi; Ascomycota; Phyllachoraceae;
It (bases I to 806)

Samac, D.A., Dickman, M., Town, C.D., Van Aken, S., Utterback, T.,
Cheung, F. and Fraser, C.M.

ESTS from mycelia of Colletotrichum trifolii race 1

Unpublished (2002)

Other BSTs: BST631782

Contact: Deborah A. Samac
Department of Plant Pathology
University of Minnesota
University of Minnesota
Pes: 651 649 5058

Fax: 651 649 5558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /tissue_fype="mycelia"
/dev stage="mycelia" actively growing mycelia (3 days after incoulation) grown in liquid culture (cutin minimal medium containing 2*glucose)."
/lab_host="DHSalpha"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BQ751220
806 bp mRNA linear EST 18-JUL-2002
EST631783 DSCT Colletotrichum trifolii cDNA clone pDSCT3-64, mRNA
                                                                                                                                                                       GAACGGGAAGGCGACTGGAGTGCCCATGTCCGGTTTTCA--CAAACATGCAAATGCTGAAT 778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /dlone_llbe_DSCT**
//oloe="Vector: pBluescript SK+; Site_1: EcoRI; Site_2:
/note="Vector: pBluescript SK+; Site_1: EcoRI; Site_2:
EcoRI; isolate: 2sp2 ; cDNA was prepared from polyA+
enriched RNA The cDNA was ligated into Lambda gtll from
Stratagene and packaged using Gigapack packaging extracts.
An aliquot of the amplified library was used to transduce
E. coli Y1090 and phage DNA was purified from a liquid
                     GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                         GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                      CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGGATCTG
                                                                                                                                                                                                                                                       GTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGGCCCCATTAAGTTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                        CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Emall: debbys@puccini.crl.umn.edu
TIGR sequence name: MTSAC64TV More information is available at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="Colletotrichum trifolii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ົວ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        www.medicago.org
Seg primer: (gtA AtA CgA CtC ACt AtA ggg
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="taxon:5466"
/clone="pDSCT3-64"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /mol_type="mRNA"
/strain="race 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BQ751220
BQ751220.1 GI:21906625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    908.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          783 GAGG
                                                                               181
                                                                                                                                      543
                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                     483
                                                                                                                                                                                             541
                                                                                                                                                                                                                                                       603
                                                                                                                                                                                                                                                                                                                                                                        663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 5
BQ751220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                   ò
                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /done_libe_Noscript
//done_libe_Noscript
//done_libe_Noscript
//done_libe_Noscript
//done_libe_Noscript
//done_ribe_Noscript
//done_ribe_Noscript
//done_ribe_Noscript
//done_ribe_Noscript
//done_ribe_Noscript
//done_ribe_Noscript
//done_ribe_Noscript
//done_ribe_Noscript
//doneribe_Noscript
//doneribe_Nos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="mycelia"
/dev_stage="Young, actively growing mycelia (3 days after incollation) grown in liquid culture (cutin minimal medium containing 24glucose)."
/lab_host="DH5alpha"
                                                                                                                                   55108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ĥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   303 GCCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGCTGCCAGCGTG 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 dacarcricgaargececaaaaccrircecegrareecargaraececceggaggr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGGAAAAAGTGGAAGGGGGGATGGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    363 GIGGIGICGAIGGIAGAACGAAGCGCGICGAAGCCIGIAAAGCGGGGGGGACAAICII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                     Contact: Deborah A. Samac
Department of Plant Pathology
University of Minnesota
495 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 5510
Tel: 612 625 1243
Fax: 614 649 5058
Bmail: debbys@puccini.crl.umn.edu
TIGR sequence name: MTSAFS9TV More information is available
WWW.medicago.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 23.1%; Score 762; DB 5; Length 793; Best Local Similarity 99.1%; Pred. No. 7e-213; Matches 777; Conservative 0; Mismatches 5; Indels

    .793
/organism="Colletotrichum trifolii"

                                                                                                                                                                                                                                                                                        Seq primer: (gth Ath Cgh Ctc Act Ath ggg C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      db_xref="taxon:5466"
clone="pDSCT6-59"
                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                               /mol_type="mRNA"
/strain="race 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       recombinants."
   Other_ESTs: EST632217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     423
                                                                                                                                                                                                                                                                                                                       PEATURES
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
```

ò 셤 8 6

ઠે ద ठे ద ઢ ద 8 8 ठ 윰 ò 유

USA

```
1. .689
                                                                                                                                                                                                                                                                       primer: SP6.
                                               Hordeum vulgare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
              CB863541
CB863541.1
                                                                                                                                Graner, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local
Matches 68
             ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                        TITLE
JOURNAL
COMMENT
                                                                                                         REFERENCE
                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
lysate. The cDNA inserts were gel purified after EcoRI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DHSalpha which were plated onto medium with X-gal for selection of recombinants."
                                                                                                                    2
                                                                                                                                                                                       122
                                                                                                                                                                                                               120
                                                                                                                                                                                                                                       182
                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                   302
                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                  362
                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                               422
                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          777
                                                                                                                                                                 9
                                                                                                                                           62
                                                                                                                                                                                                      CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                  CGGGAAAAAGCGGCGGAGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                241 CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCCAGTCTGGCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCACAAA----CATGCAATGCTGAAT
                                                                                                                                                       GACATTICGAAIGGCGCAAAACCITICGCGGIAIGGCAIGAIAGCGCCCGGAAGAGAGA
                                                                                                                                                                                                                                       CGGGAAAAAGTGGAGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                   CAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                   GCGCCGTCGCAAATTGTCGCGCCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                               GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481 GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                         CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                               GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCGCGCAACGCGTCAGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTGTGGAAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                          GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Greerercearesaaceaaceacerceaacereraaaceececeecaarerr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  creececaacecercaeresecrearcarraacrarececreeareaccaseare
                                                                                                                    Gaps
                                                                                                                    ..
..
                                                                                              Length 806;
                                                                                                                    Indels
                                                                                              5.
                                                                                           22.9%; Score 755.4; DB 5;
llarity 97.4%; Pred. No. 6.3e-211;
Conservative 0; Mismatches 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGGGCATCGTTCCCACTGCGATGCTGGTTG 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGG--CATCGTTCCACTGCGATGCTGGTTG
                                                                                                         Similarity
                                                                                             Local St. 790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       778
                                                                                                                                                                                         63
                                                                                                                                                                                                                                      123
                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                    183
                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                  243
                                                                                                                                                                                                                                                                                                                                                                                  303
                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                               363
                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   723
                                                                                                                   Matches
                                                                                              Query
                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                           셤
                                                                                                                                                                                      8 &
                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                            ે
                                                                                                                                                                                                                                                                                   Š
```

CB863541 689 bp mRNA linear EST 22-APR-2003 HH04A08y HH Hordeum vulgare cDNA clone HH04A08 3-PRIME, mRNA sequence.

RESULT 6 CB863541/c LOCUS DEFINITION

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             390
                                                                  Hordeum vulgare
Eukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Pooideae; Triticae; Hordeum.
1 (bases 1 to 689)
Varshney, R. K., Zhang, H., Burton, R., Stein, N., Langridge, P. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /notes="Vector: pSPORT; Site 1: SalI (5-end of cDNA); Site 2: NotI (3-end of cDNA); Due to the cloning system used blue/white selection for recombinants is not 100 ^{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCCCCTCGCAAATTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATCTTCTCGCGCAACGGGTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCCGCGTGGTGAACCAGGCCAGGTTTCTGCGAAAACGCGGGAAAAAGTGGAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        recegegradeaaceaeeceaeceaegriferecaaaaacecegaaaagragaageg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGGCGATTAAATCTCGCCCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAAGCGCCTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                             Contact: Stein Nis
Molecular Markers Group, Department Genbank
Molecular Markers Group, Department Genbank
Corrensstr. 3, 16466, Gatersleben, Germany
Tel: 039482-5595
Email: stein@ipk-gatersleben.de
Insert Length: 689 Std Error: 0.00
Plate: 4 row: A column: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             reliable. Average insert size is 1.3 kb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         day old"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20.8%; Score 684.8; DB 6; 99.6%; Pred. No. 4.2e-190; ive 0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Hordeum vulgare"
/mol_type="mRNA"
/cultivar="Sloop"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="coleoptile"
/dev_stage="coleoptile, 1
/lab_host="DH10B"
                                                                                                                                                                                                                                   Barley ESTs from coleoptile tissue
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="GABI:555198"
/db_xref="taxon:4513"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone="HH04A08"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone lib="HH"
GI:30058100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     686; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
```

```
652 ACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCCGCGTGGTG 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="uncultured marine virus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Biology Dept.
San Diego State University
5500 Campanile Dr. San Diego, CA 92102,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fax: 619595676
Email: forest@sunstroke.sdsu.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                uncultured marine virus uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AY080106
AY080106.1 GI:24745302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Rohwer F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rel: 6195941336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Class: shotgun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12384570
                                                                                                                                                272
                                                                                                                                                                                                                                                                                                                                                                                                                                                     172
                                                                                                                                                                                                                                                            391
                                                                                                                                                                                                                                                                                                                                           292
                                                                                                                                                                                                                                                                                      352
                                                                                                                                                                                                                                                                                                                                                                       511
                                                                                                                                                                                                                                                                                                                                                                                                                          571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 631
                                                                                                                                                                                                                                                                                                                 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 8
AY080106
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOURCE
                                                        q
                                                                                        ò
                                                                                                               g
                                                                                                                                      ò
                                                                                                                                                                     DP
DP
                                                                                                                                                                                                                         qq
                                  ò
                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                    8 6
                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                   AL038548
DKPZp566E0346_r1 566 (synonym: hfkd2) Homo sapiens cDNA clone
                 260
                                                                                        150
                                                                                                                   620
                                                                                                                                                               621 CAAAICGCGCTGTIAGCGGGCCCAITAAGTICTGICTCGGGGGGGTCTGCGTCTGGGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKRZ); Email s.wiemnn@dkfz-heidelberg.de;
sequenced by MediGenomix (Martinsried/Germany) within the cDNA
eveloping consortium of the German Genome Project. No s1 sequence
                                                                                                                                            90
                                                                                                                                                                                                  30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93 ACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTATCAGACCGTTTCCCGCGTGGTG 152
                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 712)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    available.
This clone (DKF2p566E0346) is available at the R2PD in Berlin.
Please contact the R2PD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin- Charlotenburg, GERMANY; Email: clone@rzpd.de.
Location/Qualifiers
209 ACTAATGTTCCGGCGTTATTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATT
                                                                                                           561 TICTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAG
                                                                                                                            ACTAATGTTCCGGCGTTATTTCTTGATGTCTCGACCAGACACCCCATCAACAGTATTATT
                                                                                                                                                                                        89 CAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCGTCTGGGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAATGTGAAACCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ottenwaelder, B., Obermaier, B., Mewes, H.W., Gassenhuber, J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/db_xref="taxon:9606"
/clone="tkr2p56620146"
/tissue type="kidney"
/ds_bost="x1-2fetal"
/lab_host="x1-2ble"
/clone lib="566 (synonym: hfkd2)"
/note="Vector: pAMP1; Site_1: Not1; Site_2: Sal1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 712;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20.5%; Score 676.4; DB 1;
llarity 99.6%; Pred. No. 1.3e-187;
Conservative 0; Mismatches 1;
                                                                                                                                                                                                                       TGGCATAATATCTCACTCGCAATCAAAT 709
                                                                                                                                                                                                                                    29 TGGCATAAATATCTCACTCGCAATCAAAT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST (Ottenwaelder, et al.)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                          AL038548.1 GI:5407738
                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 699; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wiemann, S.
                                                       501
                                                                                                                                                                                                                      681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  33
                                                                                                                                                                                                                                                                                                                    LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                      AL038548/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                       요
ò
                                                     ò
                                                                      셤
                                                                                                         à
                                                                                                                               g
                                                                                                                                                      ò
                                                                                                                                                                                     유
                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                          유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

```
AY080106
AY080106 Scripps Pier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p13GL, genomic survey
                                                533
                                                                                                                                  473
                                                                                                                                                                                                                                                                                                                                                450
                                                                               212 GCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTGAT 271
                                                                                                                                                                 TGGCGTTGCCACCTCCAGTCTGGCCCTGCAC-GCGCCGTCGCAAATTGTCGCGGCGATTA 330
                                                                                                                                                                                            331 AATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTAGAACGAAGCGGGG 390
                                                                                                                                                                                                                                                                            293
                                                                                                                                                                                                                                                                                                                                                                                                                                  510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGC 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Viruses; environmental samples.

1 (bases 1 to 710)

1 (bases 1 to 710)

Mead, D., Azam, F. and Rohwer, F. Genonic analysis of uncultured marine viral communities

Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14250-14255 (2002)
                            532 GCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAACAACAGTCGTTGCTGAT
                                                                                                                                                                                                                                                                                                                                     TCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCA
                                                                                                                                                                                                                                                                                                                                                                           TCGAAGCCTGTAAAGCGGCGCTGCTAATCTTCTCCCCCAACGCGTCAGTGGCTGATCA
                                                                                                                                                                                                                                                                                                                                                                                                                       CGGCGTTATTTCTTGATGTCTCTGACCCAGACACCCATCAACAGTATTTTCTCCCCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               232 CGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCACCAGCAAATCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACCAGGCCAGCCACGTTTCTGCGAAAACGCGGG-AAAAAGTGGAAGCGGCGATGGCGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             691 ATCTCACTCGCAATCAAATTCAGCGGAACGGGAACGGGAAG 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   52 ATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAG 11
```

```
1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 999
                                                                                                                                                                                                                                                                                                                               459
                                                                                                                                                                                                                                                                                                                                                                                             519
                                                                                                                                                                                                                                                                                                                                                                                                            579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   607
                                                                       fincte="Marine viruses were isolated from 200 liters of surface seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by randomly shearing the total marine viral community DNA, end-repairing, ligating dsDNA linkers to the ends, and amplifying the fragments using Vent DNA polymerase. The resulting fragments were ligated into the pSMART vector and electroporated into MC12 cells (Lucigen; Middleton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTA 187
                                                                                                                                                                                                                                                                                                                                                            67
                             /clone="S1051p33G6L"
/clone_lib="Scripps Pier (La Jolla, CA) uncultured virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATATCTCGGTAGTGGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCACCATCAAACAGGATTTTCGCCTGCTGGGGGCAAACCAGGGTGGACGCTTGCTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTCTCAGGGCCAGGCGGTGAAGGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAA
                                                                                                                                                                                                                                                                                                                                                              GTGCTGCAGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGGAGTGCCATGTCCGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCAGATGCCCCTGGCCCCAATGCCCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGCTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   548 CCACCATCAAACAGGATTTTCGCCTGCTGGGCAAACCAGCGTGGACCGCTTGCTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               608 TCTCTCAGGGCCAGGCGGTGAAGGGCCAATCANCTGTTGCCCGTCTCACTGGTGAAAA-AA
                                                                                                                                                                                                                                                                                                                               GTAAAGCGCCGCTGCACAATCTTCTCGCCCAACGCGTCAGTGGGCTGATCATTAACTATC
                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                  1;
                                                                                                                                                                                                                                                                 Length 710;
                                                                                                                                                                                                                                                               Score 676; DB 8; Length 71
Pred. No. 1.7e-187;
0; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCC 1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAACCACCCTGGCGCCCAATACGCAAACCGNCTTCCC
type="genomic DNA"
xref="taxon:186617"
                                                                                                                                                                                                                                                               20.5%;
98.9%;
                                                            community"
                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 98.9
Matches 690; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1060
                                                                                                                                                                                                                                                                                                                                                                                                                         68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      940
                                                                                                                                                                                                                                                                                                                                                            æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     488
                                                                                                                                                                                                                                                                                                                               400
                                                                                                                                                                                                                                                                                                                                                                                           460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  쇰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                          ઠે
```

```
1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cearraaarcreececcearcaacreeereccaecereerecreerecareeraaaceaa 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360 ececcercaaecereraaaceecerecaearerrereceecaaceegreaereec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rearcarraacrarcecregargaccaegargccarrecregeaagcreccrecacra 241
                                                                                                                                  Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalla, Eutheria, Primates, Catarrhini, Hominidae, Homo. 1 (bases 1 to 660) Ansorge, W., Benes, V., Krieger, S., Mewes, H.W., Gassenhuber, J. and
                                                                                                                                                                                                                                                                                                                            This is the 3' sequence of the clone insert Clone from S. Wiemann, Molecular Genome Analysis, German Cancer Clone from S. Wiemann, Molecular Genome Analysis, German Cancer Sesearch Center (DKFZ); Email s.wiemann@dkfz- heidelberg.de; sequenced by EMBL (European Molecular Biology Laboratories, Heidelberg/Germany) within the cDNA sequencing consortium of the German Genome Project.
                                                                                                                                                                                                                                                                                                                                                                                                                                              No r1 sequence available.
This clone (DKRZp4341102) is available at the RZPD in Berlin. Please contact the RZPD: Ressourcentrum, Heubnerweg 6, 14059 Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAACGCGGGAAAAAGTGGAAAGCGCGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAAACGCGGGAAAAAAGGGGGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAATTGTCGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>AACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCC</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACACAACAACTGGCGGGCAAACAGTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        recrearrescenteceaccrecastrascerescerescerescerescandentesces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTCGATGGTAGAACGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
DKFZp4341102_s1 434 (synonym: htes3) Homo sapiens cDNA clone DKFZp4341102_3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /dev stage="adult"
/lab_host="DH10B"
/clone_lib="434 (synonym: htes3)"
/note="Vector: pSport1; Site_1: Not1; Site_2: Sall"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 660;
                                                                                                                                                                                                                                                                                                              Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19.6%; Score 647.4; DB 1; 99.7%; Pred. No. 4.5e-179; iive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .660
/organism="Homo sapiens"
/mol_type="mRNA"
/db xref="taxon:9606"
/clone="DKPZp4141102"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tissue_type="testis"
                                                                                                                                                                                                                                EST (Ansorge, Benes, et al.)
Unpublished (1999)
Contact: MIPS
                                                          AL044483.1 GI:5432701
EST.
                                                                                                Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    659; Conservative
                                                                                                                      Ното варіепв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                  Wiemann,S.
EST (Ansor
                                                                                                                                                                                                                                                                                            MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local
Matches 65
  DEFINITION
                                      ACCESSION
VERSION
KEYWORDS
                                                                                                                  ORGANISM
                                                                                                                                                                                                                              TITLE
JOURNAL
COMMENT
                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
```

ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCT

505

ð

EST 04-SEP-2003

linear

mRNA

ď 99

AL044483

RESULT 9 AL044483/c LOCUS

용

ઠે

a

ઠે 8 ઠે 셤

ò

```
CB863814 62-2003
HH07B20y HH Hordeum vulgare cDNA clone HH07B20 3-PRIME, mRNA
           270 ATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATT 329
                                                                                                                                                        342
                                                                                                                                                                                                                                                                                                          509
                                                                                             402
                                                                                                                                                                                      389
                                                                                                                                                                                                 449
                                                                                                                                                                                                                                                            281 GTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATC 222
                                                                                                                                                                                                                                                                                                                                        162
                                                                                                                                                                                                                                                                                                                                                             510 CCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCAT 569
                                                                                                                                                                                                                                                                                                                                                                                                 102
                                                                                                                                                                                                                                                                                                                                                                                                                        GAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hordeum vulgare
Hordeum vulgare
Hordeum vulgare
Eukaryots, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnollophyta, Liliopsida, Poales, Poaceae, Pooldeae, Triticeae, Hordeum.
1 (bases 1 to 624)
Varshney, R.K., Zhang, H., Burton, R., Stein, N., Langridge, P. and
                                                         210 GAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTG
                                                                                  461 GAGCTGAATTACATTCCCAACCGCGTGGCACAACAACAACAGCGGGCAAACAGTCGTTGCTG
                                                                                                                                     330 AAAICTCGCCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTAGAACGAAGCGGC
                                                                                                                                                                                                                                         GTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATC
                                                                                                                                                                                                                                                                                                                                Barley, ESTE from coleoptile tissue
Unpublished (2003)
Contact. Stein N103
Molecular Markers Group, Department Genbank
Institute of Plant Genetics and Crop Plant Research (IPK)
Corrensestr. 3, 06466, Gatersleben, Germany
Tel: 039482-5552
Fax: 039482-5552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGTTAGCGGCCCATTAAGTTCTGTCGGCGCGTCTGCG 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCG 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: stein@ipk-gatersleben.de
Insert Length: 624 Std Error: 0.00
Plate: 7 row: B column: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. .624
/organism="Hordeum vulgare"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"

cultivar="Sloop"

/db_xref="GAB1:555471"

/db_xref="taxon:4513"

/clone="HH07B20"

/tissue_type="coleoptile"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CB863814
CB863814.1 GI:30058373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Seq primer: SP6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    630
                                                                                                                                                                                                            341
                                                                                                                                                                                                                                                                                                                                                                                                                         570
                                                                                                                                                                                                                                         390
                                                                                                                                                                                                                                                                                                    450
                                                                                                                                                                                                                                                                                                                                                                                             161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CB863814/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                    8
                                                                                 유
                                                                                                                ò
                                                                                                                                        임
                                                                                                                                                                      à
                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                        BJ063872 NIBB Mochii normalized Xenopus tailbud library Xenopus laevis cDNA clone XL077k02 5', mRNA sequence.
624
                                                               684
                                                                                                                                                                   685 ATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTG 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                             150 GTGAACCAGGCCAGGTTTCTGCGAAAACGCGGGAAAAAGTGGAAGCGGCGATGGCG 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 ATAMATATCTCACTCGCAATCAACTTCAGCGGAAGGGGAAGGCGACTGGAGTG 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: tshini@genes.nig.ac.jp
The information of this clone is available through the following
                                               CCCATGAAGACGGTACGCGACTGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                        CGCGGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAATGTGAAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="whole embryo"
dev stage="stage 25"
/clone_lib="NIBB Mochii normalized Xenopus tailbud
library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kitayama, A., Terasaka, C., Mochii, M., Ueno, N., Shin-i, T. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19.4%; Score 641; DB 4; Length 641; 
llarity 100.0%; Pred. No. 3.5e-177; 
Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Expressed genes in X. laevis embryo Unpublished (2001). Contact: Tadasu Shin-i Center For Genetic Resource Information National Institute of Genetics 11111 Yata, Mishima, Shizuoka 411-8540, Japan Tel: 81-559-81-6856
                                                                                                                                                                                                                                                                                                                                                                                                                              Xenopus laevis (African clawed frog)
Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    organism="Xenopus laevis"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /mol_type="mRNA"
/db_xref="taxon:8355"
/clone="XL077k02"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    http://xenopus.nibb.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                BJ063872.1 GI:17471074
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fax: 81-559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                               745 C 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Simi
Matches 641;
                                               265
                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90
                                                                                                                                                                                                                                                                                                       RESULT 10
BJ063872/c
                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                    LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
```

FEATURES

ORIGIN

셤 à ద

ð,

ઠે

ઠે 셤 음 성 જે g ઠે 셤 ઠે 음 ò

```
CTTGCTGCAACTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACT 1048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCGCA 1168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTGAAAAGAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGGGGGTTGGC 1108
                                                         Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 3' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Clone from S. Wiemann, Molecular Genome Parlysis, sequenced
sequencing consortium of the German Genome Project. rl sequence
also available.
This clone is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             436 CCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   316 GGTGAAAAAGAAAAACCCCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGTTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            676 ATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAAACGGGAAGGCGACTGGAGTGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                       Length 794;
                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 18.5%; Score 612; DB 1; Length 79 Best Local Similarity 99.7%; Pred. No. 1.4e-168; Matches 634; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCAATTAATGTGAGTTAGCTCACTCATTAGGCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             196 ACGCAATTAATGTGAGTTAGCTCACTCATTAGGCAC 161
                                                                                                                                                                                                                  1. .794
/organism="Homo sapiens"
   et al.)
 EST (Duesterhoeft,
Unpublished (1999)
Contact: MIPS
MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        989
 TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST 04-SEP-2003
                                                                                                                                                                        ö
                                                                                                                                                                                                                                560
                                                                                                                                                                                                                                                                122
                                                                                                                                                                                                                                                                                             500
                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                          440
                                                                                                                                                                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                                                                                                                                                                                     380
                                                                                                                                                                                                                                                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG 602
                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /dev_stage="coleoptile, 1 day old"
/lab.host="DH108"
/clome_lib="HH"
/note="Vector: pSPORT; Site_1: SalI (5-end of cDNA);
Site_2: NotI (3-end of cDNA); Due to the cloning system used blue/white selection for recombinants is not 100 % reliable. Average insert size is 1:3 kb."
                                                                                                                                                                                                                                                                                                                           319 GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGGTGTCGATGGTAGAACGAAGCGGTCGAAGCCTGTAAAGCGGCGGTGCAAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCGCGCAACGGGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGACTGGGCGTGGACGTCTG
                                                                                                                                                                                                                      GACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGA
                                                                                                                                                                                                                                                                              439 cegenananerecaneceareceareceaecrenarinacarreceareceareceae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGCCGTCGCAAATTGTCGCGCCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                   GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                        Greretrareasecerrrecesecrasisaaceaseceasecacerrrecesaaaaes
                                                                                                                                                                                                                                                                                                                                                                                        CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALO45353
DKFZp434B075_s1 434 (synonym: htes3) Homo sapiens cDNA clone
DKFZp434B075_3', mRNA sequence.
                                                                                                                                                                      .;
0
                                                                                                                                      Query Match 18.7%; Score 615.8; DB 6; Length 624; Best Local Similarity 99.7%; Pred. No. 9.5e-170; Matches 617; Conservative 0; Mismatches 2; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTCGCATTGGGTCACCAGC 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AL045353
AL045353.1 GI:5433506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wiemann, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ношо
                                                                                                                                                                                                                                                                                                                                                          499 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              603
                                                                                                                                                                                                   m
                                                                                                                                                                                                                                  619
                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                                        183
                                                                                                                                                                                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AL045353/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 12
                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

ä

628 736 688 677 748 617 808 377

868 497 928 437 988

557

317

257

```
2414 AAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAGTTGGCGAAAGATC 2473
                                                                                                                                                                                  2534 AGAIGICCGCTITCTGGTAIGCCGTGCGTACTGCGGTGAICAACGCCGCCAGCGGTCGIC 2593
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GSS 06-NOV-2002
                                       332 AGGCCAACCCGTTGGGTGCCGTAGGCTTGTTTTTGGAGAAGAGTTGGCGAAAGATC 273
                                                                                                                     272 CACGTATTGCCGCCACCATGGAAACGCCCAGAAAGGTGAAATCATGCCGAAACATCCCGC 213
                                                                                                                                                                                                                    212 AGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCCGCCAGGGGTCGTC 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          608 CAGTCTGGCCCTGCACGCGCATCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCA 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              surface seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by randomly shearing the total marine viral community DNA, end-repairing, ligating dsDNA linkers to the ends, and amplifying the fragments using Vent DNA polymerase. The resulting fragments were ligated into the pSMART vector and electroporated into MC12 cells (Lucigen; Middleton, WI)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Breitbart, M., Salamon, P., Andresen, B., Mahaffy, J.M., Segall, A.M., Mead, D., Azam, F. and Rohwer, F.
Mead, D., Azam, F. and Rohwer, F.
Mead, D., Azam, F. and Rohwer, F.
Proc. Matl. Acad. Sci. U.S.A. 99 (22), 14250-14255 (2002)
22294988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. .608
/organism="uncultured marine virus"
/organism="uncultured"
/mol_type="genomic DNA"
/db_xref="taxon:186617"
/clone="$1051p3D4L"
/clone="s1051p3D4L"
/clone lib="Scripps Pier (La Jolla, CA) uncultured virus
                                                                                                                                                                                                                                                                                                                                                                                                                                             AY080094 Scripps Pier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p3D4L, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="Marine viruses were isolated from 200 liters of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 287 CAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tch 17.9%; Score 589.8; DB 8; Length 608; al Similarity 99.7%; Pred. No. 4.5e-162; 591; Conservative 0; Mismatches 2; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Rohwer F
Biology Dept.
San Diego State University
5500 Campanile Dr, San Diego, CA 92102, USA
Tel: 61955441336
Fax: 61955576
Email: forest@sunstroke.sdsu.edu
                                                                                                                                                                                                                                                                                 2594 AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 2628
                                                                                                                                                                                                                                                                                                            152 AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Viruses; environmental samples.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Class: shotgun.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AY080094
AY080094.1 GI:24745276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 608)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 591, Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12384570
                                                                                            2474
                                                                                                                                                                                                                                                                                                                                                                                                                     AY080094/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                    q
                                                                                          ò
                                                                                                                                 g
                                                                                                                                                                                  ò
                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                   음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                 GSS 09-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2174
                                                        CL655575
PRI0124a C01 - PRI0124a B21 (752) Mixed stage fosmid library of P. pactificus var. California Pristionchus pacificus genomic, genomic CL655575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGGGCATGGTCCAACAT 2234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTCAAGGGTCAACCATC 2294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2295 CAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGTCCGAACAAAAAGAGCT 2354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2355 GGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTGGAAGCGGTTAA-TA 2413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            512 CGACACCAGCAAAGTGAATTATGGTGTTACGGTACTGCCGACCTTCAAGGGTCAACGTC 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bukaryota; Metazoa; Namatoda, Chromadorea; Diplogasterida; Neodiplogasteridae; Pristionchus.

1 (bases 1 to 752)
Srinivasan, J., Otto, G. W., Kahlow, U., Geisler, R. and Sommer, R. J. AppaDB: an AcedB database for the nematode satellite organism Pristionchus pacificus
Nucleic Acids Res. 32 (1), D421-D422 (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone_lib="Mixed stage fosmid library of P. pacificus var. California"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             752 TTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAGTATGAAACGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2055 GIACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCGGGTCTGACCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCGGGTCTGACCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTTGACCTGATTAAAACAAGCACATGAATGCAGACACCGATTACTCCATCGCAGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               452 CAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGTCCGAACAAAGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1996 TICACCIGGCGCTGATIGCTGAC-GGGGGTTATGCGTTCAAGTATGAAAACGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2115 GGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGGATTACTCCCATCGCAGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            end
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Evolutionary Biology
Max-Planck-Institute for Developmental Biology
Spemannstr. 37-19, Tuebingen D-72076, Germany
Tel: 00497071601371
Fax: 00497071601498
Email: ralf.sommeretuebingen.mpg.de
This library was generated at Caltech, Pasadena, USA and egequenced at Vancouver, Canada.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18.3%; Score 603; DB 9; Length 752;
llarity 98.9%; Pred. No. 6e-166;
Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="Vector: pEpifos-5 Fosmid vector"

    .752
    .752mism="Pristionchus pacificus"
/mol_type="genomic DNA"
/strain="California"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db xref="taxon:54126"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bequestry. 25eq primer: T7
Class: fosmid ends.
Location/Qualifiers
                                                                                                                                                                          CL655575.1 GI:50134897
GSS.
                                                                                                                                                                                                                      Pristionchus pacificus
Pristionchus pacificus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    628;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2235
                                                        LOCUS
                                                                                                                                                ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
            RESULT 13
CL655575/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
```

셤 ઠ 윱 ઠે g 셤

ç

g

ò

ठे

g

ò

```
17.8%;
99.7%;
                                                                                                                      Conservative
  /tissue
                                                                                                        al Similarity
587; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              229 (
                                                                                                                                                                                                                                                                                                                                                              757
                                                                                                                                                                                                                                                                                                                                                                                                                817
                                                                                                                                                                                                                                                                                                                                                                                                                                          289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1057
                                                                                                                                               517
                                                                                                                                                                                                   577
                                                                                                                                                                                                                                                                                469
                                                                                                                                                                                                                                                                                                          697
                                                                                                                                                                                                                                                                                                                                    409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          49
                                                                                                                                                                                                                             529
                                                                                                                                                                                                                                                      637
                                                                                            Match
                                                                                                           Local
                                                                                          Query Mat
Best Loca
Matches
                                                                   DRIGIN
                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                  ò
                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                          ठ
                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-SEP-2003
                                                                              429
                                                                                                        526
                                                                                                                                  369
                                                                                                                                                           586
                                                                                                                                                                                     309
                                                                                                                                                                                                               646
                                                                                                                                                                                                                                         249
                                                                                                                                                                                                                                                                  706
                                                                                                                                                                                                                                                                                              189
                                                                                                                                                                                                                                                                                                                      992
                                                                                                                                                                                                                                                                                                                                                 129
                                                                                                                                                                                                                                                                                                                                                                           826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mamaalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (Bases 1 to 589)
Bloecker, H., Boecher, M., Brandt, P., Mewes, H.W., Gassenhuber, J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ltd.,
                          489
                                                     466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of the
  406
                                                                                                                                                                                                                                                                                                                                                                                                    69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKF2); Email s. wiemann@dkfz- heidelberg.de;
sequenced by GBF (National Research Centre for Biotechnology Ltd
German Genome Project.

German Genome Project.
No 81 sequence available.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No 81 sequence available.
This clone (DKTZp564C157) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY, Email: clone@rzpd.de.
                                                                   GGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTGGA
                                                                                                                                                                                                                                                                  AAGTICTGTCTCGGCGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCA
                                                                                                                                                                                                                                                                                   AAGTICTGTCTCGGCGCGTCTGCGTCTGGCTGGCTGGCTGAAAATATCTCACTCGCAAATCA
                                                                                                                                                                                                                                                                                                                                                                         CATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGAT
                                                                                                                      TGACCAGGATGCCATTGCTGTGGAAGCTGCCTGCACTAATGTTCCAGCGTTATTTCTTGA
                                                                                                                                                                           TGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACT
                                                                                                                                                                                                                                                                                                                      AATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAAC
             TGACCAGGATGCCATTGCTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGA
                                                                                                                                                           TGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACT
                                                                                                                                                                                                               GGGCGTGCAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATT
                                                                                                                                                                                                                                GGGCGTGGAGCATCTGGTTTGGGTCACCACCAAATCGCGCTGTTAGCGGGCCCATT
                                                                                                                                                                                                                                                                                                                                               AATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAAC
                                                                                                                                                                                                                                                                                                                                                                                                    CATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGAT
  ACTGGGTGCCAGCGTGGTGGTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGC
                                                     GGCGGTGCACATCTTCTCGCGCACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKFZps64C157_r1 564 (synonym: hfbr2) Homo sapiens CDNA clone AL037742
                                                                                                                                                                                                                                                                                                                                                                                                                               879
                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGCTTGGTGCGG 16
                                                                                                                                                                                                                                                                                                                                                                                                                              GCCCTGGGCGCATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   clone="DKFZp564C157"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AL037742.1 GI:5407088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST (Bloecker, et al.)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wiemann,S.
EST (Bloec
                          548
                                                                                                                                                                                                                                                                                                                                                                                                    128
                                                                                                                                                                                                                                                                  647
                                                                                                                                                                                                                                                                                            248
                                                                                                                                                                                                                                                                                                                      707
                                                                                                                                                                                                                                                                                                                                                 188
                                                                                                                                 128
                                                                                                                                                          527
                                                                                                                                                                                     368
                                                                                                                                                                                                               587
                                                                                                                                                                                                                                                                                                                                                                           167
                                                    407
                                                                             488
                                                                                                       467
                                                                                                                                                                                                                                        308
                                                                                                                                                                                                                                                                                                                                                                                                                            327
                                                                                                                                                                                                                                                                                                                                                                                                                                                      68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 15
AL037742/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PEATURES
                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                          g
                      셤
                                             ઠે
                                                                      g
                                                                                                    ò
                                                                                                                       요 요
                                                                                                                                                                             g
                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                    ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                              음
ð
```

```
1056
                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                    576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 936
                                                                                                                                                                                                                                                                                                  530
                                                                                                                                                                                                                                                                                                                                                     636
                                                                                                                                                                                                                                                                                                                                                                                                     470
                                                                                                                                                                                                                                                                                                                                                                                                                                                   969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               169 TAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGC 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                             589 TATITCTIGATGTCTCTGACCAGACACCCCATCAACAGTATTATTTTCTCCCTTGAAGAGG
                                                                                                                                                                                                                                                                                                                                                                            GTACGCGACTGGGCGTGGACCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               349 TTCAACAANCCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGATCAGATGGCGCTGGGCGCGCATTACCGAGTCCGGGCTGCGCGTTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Accarcacarcacarcacacaracacacarraccaaraccaacracacacracacaracara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCGGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACTCTCTCAGGGCGCGGGGGGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                109 AACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAA
                                                                                                                                                                                                                                                    TATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTCTCCCATGAAGACG
                                                                                                                                                                                                                                                                                                                                                     GTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCGCAATCAATTCAGCCGATAGCGGAAACGGGAAGGCGACTGGAGTTCAGCTGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGCTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGC
                                                                                                                                                                                                      Gaps
/dev_stage="fetal"
/lab_host="X1-2blue"
/clone_lib="564 (synonym: hfbr2)"
/note="Vector: pAMP1; Site_1: Not1; Site_2: Sall"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAAAAACCACCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGTT 1105
                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GADADADACCACCCTGGCGCCCADTACGCADACCGCCTCTCCCCCGCGCGTT
                                                                                                                                                      Length
                                                                                                                                                                                                    Indels
                                                                                                                                                      DB 1;
                                                                                                                                                   Score 586.4; DB 1;
Pred. No. 4.5e-161;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Search completed: August 3, 2005, 02:02:50
Job time : 6745.2 secs
```

I TIS PAGE BLANK (USPTO)

Sequence 30, Appl Sequence 25, Appl Sequence 20, Appl Sequence 61, Appl Sequence 61, Appl Sequence 11, Appl Sequence 15, Appl Sequence 15, Appl Sequence 194, App Sequence 194, App

Sequence 137, App Sequence 54, Appl Sequence 2, Appli Sequence 1, Appli Sequence 3, Appli Sequence 4, Appli Sequence 4, Appli

Sequence 3, Appli Sequence 52, Appl Sequence 2, Appli Sequence 1, Appli Sequence 32, Appli Sequence 32, Appli Sequence 32, Appl Sequence 32, Appl Sequence 2, Appli GENERAL INFORMA Sequence 1, Appli Sequence 2, Appli Sequence 19, Appl

Н

Perfect score:

Sequence:

ı

OM nucleic

Run on:

Scoring table:

Searched:

Minimum DB 8 Maximum DB 8

Database

```
DB 10; Length 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; OTHER INFORMATION: PArtial sequence of pMal-m3 and zinc finger; OTHER INFORMATION: protein ZFPm3
US-09-765-555-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        to modulate
                                                 US-110-263-153-40
US-110-263-153-40
US-110-263-153-30
US-110-263-153-25
US-110-263-153-25
US-110-263-153-20
US-110-263-153-10
US-110-263-133-10
US-110-263-133-10
US-110-263-133-10
US-110-363-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 16, Application US/09765555
Publication No. US2003003735A1
GERREAL INFORMATION:
GERREAL INFORMATION:
APPLICANT: The Scripps Research Institute
TITLE OF INVENTION: expression in plants
FILE REFERENCE: 27801-25014.00
CURRENT APPLICATION NUMBER: US/09/765,555
CURRENT FILING DATE: 2002-05-24
FRIOR FILING DATE: 2000-01-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-995-898A-32
US-10-420-034A-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
100.0%; Score 3300;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 3300; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA ORGANISM: Artificial Sequence
919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

919199

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919

91919
US-09-765-555-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1237.2
1237.2
1237.2
1237.2
                                                                                                           2690.4
2690.4
2690.4
2690.4
2690.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1238.4
                                                                                                                                                                                                                                                                           2690.
2690.
2690.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1462
  Sequence 18, Appl
Sequence 14, Appl
Sequence 15, Appl
Sequence 17, Appl
Sequence 1, Appli
Sequence 5, Appli
                                                                                                                                                                                       Search time 1309.2 Seconds (without alignments)
16314.373 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Cgn2_6/ptodata/1/pubpna/USO7_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO6_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO6_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO6_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO6_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
                          GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-765-555-16
US-09-765-555-14
US-09-765-555-14
US-09-765-555-17
US-09-765-555-17
US-10-257-184A-1
US-10-149-472-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7287783 segs, 3236178273 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Applications NA:*
                                                                                                                                                                                             2, 2005, 10:29:49 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                        nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                              Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                     US-09-765-555B-16
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3300
3300
3300
3300
7373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                              IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Published
                                                                                                                                                                                                August
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97.5
97.2
97.2
97.2
97.2
82.0
```

ô

Gaps

ö

3200 3216.8 3207.2 3207.2 3207.2 2705.8

Score

Result Š

	7 7	1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320 	1321 TGTCGCTCAAGGCGCACTCCCGTTCTCGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATGGCTCGTATAATGTGTGG 1440 	1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 	1501 GCACTTCACCAACAAGGACCATAGAAAACTGAAAACTGAAGGTAAACTGGTAATCTGG 1560 	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680 	1681 GCGCCACTGCGGATGGCCCTGACATTATCTTCTGGCCACGACCGCTTTGGTGGCTAC 1740 	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCGGATCGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 	1921 GAGAICCCGGCGCTGGAIAAAGAACTGAAAGCGAAAGGIAAGGGCGCGCTGAIGTICAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAAG 2040 	2041 TATGAAACGGCAAGTACGACATTAAAGACGTGGGGCGTGGATAAGCTTGGCGCGAAAGCG 2100 	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAACATGATGAATGCAGACACCGATTAC 2160 	2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220
qa bo	vo da	පි ර	è 9	SP 65	Oy Op	oy Dp	Oy Dp	ov Op	ò q	oy Oy	op ox	oy Dp	yo d	oy D	S G	oy B	λō
CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60 	18 18	181 CGCGGGAAAAGTGGAGCGGAGTGGCGGAGCTGAATTACATTCCCAACCGGTGGCAC 240		u u	4, 4,	421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480	481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540		601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660 	661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCGGATAG 720 	721 CGGAACGGGAAGGCGACTGGGGTGTGCCGGTTTTCAACAAAGCATGCAGA 780 	781 ATGAGGGCATCGTTCCCACTGCGATGCTGGCTACCAACGATCAGATGGGCGCTGGGCGCAA 840 	S — S		961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGGCCAGGGGTGA 1020	ATA 	TT 114

m

6 6 6 6

요

8 6

6 6 6 6 6 6 6

8

8 8 8 8

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGTCTCTTATCAGACCGTTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAAGGGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rrecretecasecrecerecatasterrecesecriarricareacerea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 10; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
OTHER INFORMATION: Parial sequence of pMal-Ap3 and zinc finger
OTHER INFORMATION: protein ZFPAp3
US-09-765-555-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52; Indels
                                                                                                                                     to modulate
                                                                                                               APPLICANT: The Scripps Research Institute
TITLE OF INVENTION: Methods and compositions to
TITLE OF INVENTION: expression in plants
FILE REFERENCE: 27801-20014.40
CURRENT APPLICATION NUMBER: US/09/765,555
CURRENT FILING DATE: 2002-05-24
PRIOR APPLICATION NUMBER: US 60/177,468
PRIOR FILING DATE: 2000-01-21
PRIOR FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 75
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 18
LENGTH: 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97.5%; Score 3216.8; ilarity 98.4%; Pred. No. 0; Conservative 0; Mismatches
                                              US-09-765-555-18

"Sequence 18, Application US/09765555; Publication No. US20030037355A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 3248; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            П
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ፟
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      જે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3300
                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3300
                                                                                                     2340
                                                                                                                                       2340
                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                              2460
                                                                                                                                                                                                                                                                                                                 2520
                                                                                                                                                                                                                                                                                                                                                 2520
                                                                                                                                                                                                                                                                                                                                                                                     2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                        2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGAATGTGGCAAGTCTTTCTCCCAATCCAGCCATCTGGTCGGCACCCAACGTACTCAC 3240
                                                                                                   GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGGAATGTGGTAAGTCCTTCAGCGATCCTGGCCACCTGGTTCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGCGGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGTCTTTCAGCCCAGAGCTCCAGCTGGTGCGCCACCAACGTACTCACACGGGGGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCGTACCCCACACGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTGCCGCGACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAAACTATCTGCTGATGATGAAGGTCTG
                                                                                                                                                                                                                                          GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                             GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                               2461 TrddcdaaagarccacGraftccaccardcaaaacgcccagaaaggrgaaarcard
                                                                                                                                                                                                                                                                                                                                                                                                                    2521 ccGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACAACAATAACAATAACAACAACATCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAAAGCCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCCGGGGAGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGGAATGTGGTAAGTCCTTCAGCGATCCTGGCCACCTGGTTCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGGGGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGGGGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCTATGCTTGTCCGGAATGTGGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCAGAATGTGGCAAGTCTTTCTCCCAATCCAGCCATCTCGTCCGGCACCAACGTACTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT
TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                      GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                      TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACTGCCGCGACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                    GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                     CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                    2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3241
                                                                                                   2281
                                                                                                                                                                                                                                                                             2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3121
                                                                                                                                     2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3061
                                  2221
                                                                                                                                                                       2341
                                                                                                                                                                                                                                          2401
                                                                                                                                                                                                                                                                                                                                                                                    2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2701
                                                                  2221
                                                                                                                                                                                                                                                                                                               2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2581
```

g

g

ò

g

ઠે

셤

ò

ያ ያ

ઠે

g

\$ A

g

ò

GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGGCCTTTGGTGGCTAC GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT GCTCAATCTGGCCTTGTTGGCTGAAATCACCCCGACAAAGCGTTCCAGGAAAAGCGTTTCCTTACCTGGGAAAGCTGTTT CCGTTTAACCTGGGAATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT CCGTTTAACCTGGGAATGCCGTACGTTACAAAGGCTGATTGCTTACCCGATCGCTGTT CGATTTACCTGGGAATGCCGTACGTTAACAAAGGCGCAAAGCTGGTTGTTACCTGGGAAAGCTGTTACCCGGATCGCTGTTTACTGCTGATTGTTTATAAAAAACTGGGAAAGCTGACCGCGCAAAAACCTGGGAA GAAGATCCGGGCCTGGATTATAAAAAAACTGAAAGCTGAAACCTGGGAA GAAGATCCGGGCCTGGATAAAAAACTGAAAGCGAAAAGCTGAACGTGAACGTAAACCTGAACGAAAACTCGAAAACTTCAACGAAAACTTCAAACGAAAAACTGAAAAAAAA		GCATGGTCCAACATCGACCTCGTAGGTGTAACGGTAACGGCTACTGCCGCCTTC 228 AAGGGTCCAACATCGACACCTCGTTGGTGTGATTATGGTGTAACGGTACTGCCGACCTTC 228 AAGGGTCCAACATCGACACCGTTCGTTGGCGTGCTGAACGGTATTAACGCTGCCGCCAGT 234 AAGGGTCAACCATCCAAACGGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 234 CCGAACAAAACGCTTCGTTGGCTGCTGAGCGCAGGTATTAACGCCGCCAGT 234 CCGAACAAAAGGCTGGCAAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2461 TIGGGGAAGTCCACGATTGCGGCCACCATGAAAACGCCCAGAAAGGTGAAATCATG 2520 2461 TIGGCGAAAAGTCCACGTATTGCGGCCACCATGGAAAACGCCAGAAAGGTGAAATCATG 2520 2461 TIGGCGAAAGATCCACGTATTGCGGCCACCATGGAAAAGGTGAAAACGTGAATCATG 2521 CCGAAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580 2581 GCCAGCGGTCGTCAGACTGTCGGTTTCTGGTATGCCGTGCTGCGGTGATCAACGCC 2580 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGACCCTGAAAGACGGCTAATTCCAACGCC 2580 2681 GCCAGCGGTCGTCAGACTGTCGATGAAGACCCTGAAAGACGCCAAATTCCAACGCC 2640 2681 AACAACAACCAAAAAAAAAAAAAAAAAAAAAAAAAAA
6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	6 8 6 8 6 8 6	6 8 6 8 6 8 6	8 6 8 6 8 6 8 6 8 6
	7, 1		
 		G 1200 G 1200 G 1260 G 1260 G 1260 G 1320 G 1320 G 1320	1440 1440 1500 1500 1560 1620 1620 1680
	AGGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGGGGGGG	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATGGCCTGGTATAATGTGTGGA 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATGGCTGGTTGAAATGTGTGGA 141 ATTGTGAGCGGATAACAATTCACACAGCAACAGCCAGTCGTTTAGGTGTTTCACA 141 ATTGTGAGCGGATAACAATTCACACAGGAACAGCCAGTCCGTTTAGGTGTTTTCACA 1501 GCACTTCACCACAAGGACAACAGCAACAGCAGCCAGTCCGTTTAGGTTTTCACGA 1501 GCACTTCACCACAAGGACCATTAATGAAACTGAAGAGTAAACTGGTAATCTGG 1501 GCACTTCACCACAAGAGCTATAACGGTCTCGCTGAAACTGAAGAGTAAACTGGGTAATCTGG 151 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAACTGAAGAATTCGAGAAAGAT 151 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAACTGGGAAAAAGTCTGG 151 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTTCGAGAAAGAT 161 ATTAACGGCGATAAAGGCTATGAGCTCTCGCTGAAGTCGGAAAAATTCCACAGGTTAACGGCAATAAAGGCTCTCGCTGAAGTCGCTGAAAACTCGAAAAAAGTCCCCACAGGTTAACGGCTACCGTTGAGCATCCGCTGAAGAACTCGAAGAAAACTTGGAAAAACTTCCCACAGGTTTTGTTGTGAAACTTGGAAAAACTTGGAAAAACTTGGAAAAACTTGGAAAAACTTGGAAAAACTTGGAAAAACTTGGAAAAACTTGGAAAACTTGGAAAACTTGGAAAAACTTGGAAAACTTGGAAAACTTGGAAAACTTGGTGCTTACCCCACAGGTTTTGTTGTTGTTGTTGTTTTTTTT

	61 TGGTCGCATTGGGTCGCCATAATGCGGGGCCCATTAAGTTCTGGGGATCGATTGGGGGCGATTGGGGGTGGGGGTGGGGGTGGGGGTGGGGTGGGGTGGGG
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8
QY 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAATCTTTTAGCACCAGCGCGTCC 2880 DD 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGGCAATCTTTTAGCAGTCCAGCAGC 2880 CS 281 CTGGTGGCCATCAACCGCATCTACTGGCGAGAATGTCCCAGAATGTCCAGAATGTGCC 2940 DD 281 CTGGTGGCCATCAACGCATCATCTGGCGAGAAGCCATTCAATGTCCCAGAATGTGCC 2940 QY 2941 AAGTCTTTCAGCCAGAGCTCCATCATGGCGAGAAGCCATCACTCCACCGGGGGAAG 3000 DD 2941 AAGTCTTTCAGCCAGACTCCAGCTGGCGCCACCCAACTCCACCGGGGGAAG 3000 DD 2941 AAGTCTTTCAGCCAGACTCCAGCTGGCCCCCCCAACTCACTC	RESULT 3 15.691-76-55-14 15.691-76-55-14 15.691-76-55-55-14 15.691-76-55-55-14 15.691-76-76-76-76-76-76-76-76-76-76-76-76-76-

OY 2341 CCGAACAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTG 2400	Db 2461 T1GGCGAAGATCCGCCACCATGGAAACGCCCAGAAGGTGAAATCATG 2520	QY 2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700 Db 2641 AACAACAACAACAACAACAACAACAACACCTCGGGATCGAGGAAGGA	Qy 2761 CCGGAATGTGGTAAGTCCTTCAGCGATCCTGGCCACCAGCGTACCCCC 2820 Db 2761 CCGGAATGTGGTAAGTCCTTCTCAGAGCTCTCACTGGTGCGCCACCAGCGTACCCAC 2820 Qy 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGCGGCTC 2880 Db 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGCAACC 2880	OY 2881 CTGGTGCGCATCAACGCACTCATACTGGCGAAAGCCATACAAATGTCCAGAATGTGGC 2940	QY 3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCAGAGCTCCCTGGTGCGCCAC 3060 Db 3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC 3060 QY 3061 CAGCGTACCCACACGGTGAAAAACCGTATAAAATGCCCAGAGTGCGGCAAATCTTTTAGT 3120 Db 3061 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGT 3120 Db 3061 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120	3121 3121 3181 3181	Qy 3241 ACCGGTAAAAAACTAGTGGCCAGCCGGCCAGTACCGTACGGTTCCGGACTACGCT 3300
1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACGGTGCACCAATGCTTCTGGGG 1260 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGCTGCTGCATAATTCG 1320		ATTAACGCCGATAAGGCTATAACGGTCCGCTGAAGTCGCTAAGAAATTCGAGA ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGA ATTAACGGCGATAAAAGGCTATAACGGTCTCGCTGGTGGTCGGTAAGAAATTCGAGA ACGGAATTAAAGTCACCGTTGAGCATCCGGAAAATTGAAGAAATTCCCAC	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740		FCAAC FCAAC FCAAG FCAAG	2041 TATGAAAAGGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGGAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACCGGATAAC 2160 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACCGATTAC 2160 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAATGAATG	161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAACAGCGATGACCATCAACGGCCCGTGG 2220

```
1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1560
                                                                                                                                                                                                1020
                                                                                                                                                                                                                        1080
                                                                                                                                                                                                                                                1080
                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1860
                                                                                                                                                                         1020
                                                                                                                                                                                                                                                                                                                                                1200
                                                   840
                                                                                                  900
                                                                                                                                                 960
                                                                                                                                                                                                                       GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTAACGCCGATAAAGCCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGCAACTGGCCGTTGGCCCTGACATTATCTTCTGGGCACACGACGCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
     CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                        GCCTGCTGGGGGCAAACCAGGGGGGACGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                            GCCTGCTGCTGGGCAAACCAGCGTGGAACCTGCTGCTGCTGCTGCTGCTGCTGCTGGTGA
                                                                                                                                                                                                                                                                         CGCAAACCGCCTCTCCCCGCGCGTTGGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                        CGCAAACCGCCTCTCCCCGCGCGTTTGGCCGATTCATTAATGCAGCTGGCACGACGACGATTT
                                                                                                                                                                                                                                                                                                                                                 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTIGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGGTTTAGGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u> ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                            TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                            ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAAACCACCATCAAACAGGATTTTC
                                                                                                                                       GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1501 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1681
                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1741
                                                                            841
                                                                                                                           901
                                                                                                                                                                         961
                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                       1261
                                                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1801
                                                                                                                                                 901
                                                                                                                                                                                                  196
                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1681
                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           상
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 8
                                                                                                                                          g
                                                                                                                                                                  δ
                                                                                                                                                                                            요
                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                               8 &
                                                                                                                                                                                                                                                                                                                                                                 장염
                                                                                                                                                                                                                                                                                                                                                                                                               상
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                           S 8
                                                                    ò
                                                                                            Ω
                                                                                                                        ò
                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCGCCGTCGCAAATTGTCGCGCGGTTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGTCTGCGTCTGGCTGGCTGGCTGAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                      CGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                     Length 3300;
                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                      zinc finger
                                                                                                                                                                                                                                                            58; Indels
                                                                                                                                                                                                                                     DB 10;
                                                                                                                                                                                     and
                                                                                                                                                                                      pMal-m2
                                                                                                                                                                                                                                 Score 3207.2;
Pred. No. 0;
0; Mismatches
TITLE OF INVENTION: expression in plants
FILE REFERENCE: 27801-20014.40
CURRENT APPLICATION NUMBER: US/09/765,555;
CURRENT FILING DATE: 2002-05-24
PRIOR PILING DATE: 2000-01-21
PRIOR FILING DATE: 2000-01-21
PRIOR FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 75
SOFTWARE: PSECSEQ for Windows Version 4.0
SEQ ID NO 15
LENGTH: 3300
                                                                                                                                                                         ; FEATURE:
; OTHER INFORMATION: Partial sequence of
; OTHER INFORMATION: protein ZFPm2
US-09-765-555-15
                                                                                                                                                                                                                                  Query Match 97.2%;
Best Local Similarity 98.2%;
Matches 3242; Conservative (
                                                                                                                                               TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                           Н
                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
```

g

ઠે g ઠે 유 ठे

ઠે

8 &

셤

g

g

8

Š

8 6

중 점

6 8 6 8 6 8 6

00 00 00 00 00 00 00 0	
1811 GAMCGETTATICGETTATITATACAMAGITTCCCCCACACCCCCCAMACCTCCCCCCCCCCCCCCCCC	,

1381 CTGGCDARTATTCTGAARTGAGCTGTTGACAATTAATCATCGGCTGGTTAATGTGTGGA 1410	341 CCGAACAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGCGGCCACAGT 249 141 CCGAACAAGAGCTGGCAAAGAGTTCCTCGAAAACTATCTGCTGATGATGGTCTG 240 141 CCGAACAGGCTGGCAAAGAGTTCCTCGGAAAACTATCTGCTGACTGA
6 4 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8	90 O
11	1201 GCACAATTCTCAIGTTTGACAGCTTATCATTGACTGCAGGGGCACCAATGCTTCTGGGG 1260 1261 TCAGGCAGCATCGGAAGCTGTGGTATGGCTGCAGGTGCACCAATGCTTCTGGGG 1260 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGATCGTAAATCG 1320 1321 TGTCGCTCAAGGCGACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTTT

ઠે 유 ò 엄 ò 8 8 셤 ò 셤 g

ò

ò

요

ò 셤 ठे g ò 유 ठे 8

요 ò

ठे გ ઠે 음

```
61 GTCAATTCAGGGTGGATGTGAAACCAGTAAAGGTTATACGATGTGGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                             CHER INFORMATION: Expression vector pMalc2cchbmp2
FEBATURE:
NAME/KEY:
COTHER INFORMATION: Expression vector pMalc2cchbmp2
SEATURE:
NAME/KEY:
COTHER INFORMATION: /product = fusion protein MBP Cystatin C BMP-2
FEBATURE:
NAME/KEY: misc_feature
LOCATION: (2689)
COTHER INFORMATION: Faktor Xa Protease /position=388
COTHER INFORMATION: (Amino acid sequence)
COTHER INFORMATION: (Amino acid sequence)
LOCATION: (3067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: (3067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C andBMP-2
LOCATION: 103067)...(3108)
COTHER INFORMATION: /spacer between Cystatin C an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 ccgacaccarcgaarggrgcaaaaccrrrcgcggrarggcargaraggggcgccggaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGCCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 7373;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DATABASE ACCESSION NUMBER: Entrez Nucleotide database/AF031813
DATABASE ENTRY DATE: 2001-05-07
RELEVANT RESIDUES: 1528 - 3453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
82.0%; Score 2705.8;
Best Local Similarity 99.2%; Pred. No. 0;
Matches 2719; Conservative 0; Mismatches
                                                                                                  TYPE: DNA ORGANISM: Artificial Sequence
                  PatentIn Ver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                       SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
            2520
                                                                                                                                                                                                                                                                                                                                                                 2700
                                                                                                                                                                                                                                                                                                                                                                                                                           2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGGAATGTGGTAAGTCCTTCAGCGATCCTGGCCACCTGGTTCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCACGTACCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1. Application US/10257384A
Publication No. US20040087524A1
APPLICANT: Wiederanders, Bernd
APPLICANT: Wiederanders, Bernd
APPLICANT: Waubach, Gunter
TITLE OF INVENTION: Agent for postoperative use after removal of bone tumors
FILE REPERENCE: 2945-101
CURRENT APPLICATION NUMBER: US/10/257,384A
CURRENT FILING DATE: 2003-08-21
PRIOR APPLICATION NUMBER: PCT/DE 01/01510
PRIOR PILING DATE: 2001-04-18
PRIOR APPLICATION NUMBER: DE 100 20 125.3
PRIOR FILING DATE: 2000-04-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGCGGCTCC 2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2941 AAGTCTTTCAGCCAGAGCTCCAGCCTGGTGCGCCACCAACGTACTCACCGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGICITICAGIGATIGICGIGATCITGCGAGGCACCAACGIACTCACACCGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3001 CCCTATGCTTGTCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACTGGTGGGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGT 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGAATGTGGCAAGTCTTTCTCCCAATCCAGCCATCTCGTCCGGCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIGGCGAAAGAICCACGIATIGCCGCCACCAIGGAAAACGCCCAGAAAGGIGAAATCAIG
                                                                                                                                                                                                                                   GCCAGCGGTCGTCAGACTGTCGATGAAGCCCCTGAAAGACGCCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                          2581 GCCAGCGGTCGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                       CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                  2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                               GGATCCTCTCTCTGTGGCCCCAGGCGCCCTCGAGCCCCGGGGAGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2821 ACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGAGCAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCGCAGAATGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACTGCCGCGACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3121 CGCAGCGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3241 ACCGGTAAAAAACTAGTGGCCAGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -10-257-384A-1
                                                                                                                                                                                                                                   2581
                                                                                                                                                                                                                                                                                                                                                    2641
                                                                                                                                                                                                                                                                                                                                                                                                               2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3061 (
2461
                                                                                                                 2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3181
```

ö

Gaps

9 9 180

240 240 300 360 360 420 420 480

TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTTCTTGATGTCTCTGACCAGA

421 421

ò 셤 ò 셤

481 481

TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA

540

	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCCGGAACCCGCCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGTTTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 1861 GAACCGTTATCGTTTTATAACAAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 1921 GAGATCCCGGCGCTGGATATCAACTGAAAGCGAAAGGCGAAAGGCGCTGATGTTCAAC 1980 1921 GAGATCCCGGCGCTGGATAAAGACGCAAAGGCGAAAGGCGCTGATGTTCAAC 1980 1931 CTGCAAGAACCGTACACTGAAAGCGCAAAAGGCGAAAGCGGTTATGCTGCTTCAAC 1980 1981 CTGCAAGAACCGTACTTCACCTGCTGATTGCTGCTGCTGATTCAAC 1980 1981 CTGCAAGAACCGTACTTCACCTGCTGCTGATTGCTGCTGCTGATCGTTCAAG 2040 2041 TATGAAAACCGCAACTACACTAAAAACGCGGCGCGCGGCGCGGCGCGAAAGCG 2100 2041 TATGAAAACGCCAAATAAAGACGGCGGCGCGCGCGCGCAAACCG 2100 2041 TATGAAAAACGCCAAATAAAGACGCGGCGCGCGCAAACCG 2100 2041 TATGAAAACGCCAATAAAGACGCCGCGCGCCGCAAACCG 2100 2041 TATGAAAACGCCAATAAAGACGCCGCGCCCCAAAACCG 2100 2041 TATGAAAACGCCCAATAAAGACCGCCGCGCCCCAACCCCCCCC		2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCGTTTAACGCCGCCAGT 2340 2341 CCGAACAAAGGGTTCCTCGAAAACTTCTGCTGATGATTAACGCCGCCAGT 2340 2341 CCGAACAAAGGCTGGCAAAAGGTTCCTCGAAAACTATCTGCTGATGAAGGTCTG 2400 2341 CCGAACAAAGGCTGGCAAAAGGTTCCTCGAAAACTATCTGCTGATGAAGGTCTG 2400 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAAGG 2460 2401 GAAGCGGTTAATAAAGACAAACCGCTGGTGCCGTAGCGCTGAAGTCTTACGAGGAAAGGTGAAATCATG 2520 2461 TTGGCGAAAGATCCACGTTTCCGCCACCATGAAAACGCCCAGAAAGGTGAAATCATG 2520 2461 TTGGCGAAAGATCCACGTTTCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 2521 CCGAACATCCCGCAGATTTCCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 2521 CCGAACATCCCGCAGATTTCCGGCCACCATGGAAAAACGCCCAGAAAGGTGAAATCATG 2520	CCGAGCGCTCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCTGTTCTTTTTTTT
8 8 8 8 8 8	8 6 8 6 8 6	8 8 8 8 8 8	8 8 8 8 8 8 8	8 8 8 8 8 8
	<u> </u>			
	ATGAGGGCAATCCTTCCCACTGCGATGCTGGTTGCCCACGATGCTGGCGCAACGATCCACTGCGCCCAACGATCCCACGATCCCACGATGCTGGCCCACGATGCCCACGATGCCCACGATGCCCACGATGCCGCCAACGATCCACTGCGCTTGCTGCCACGATCCACTGCGCCCATTACCGACTGCCGCTTGGTGCGATATCTCGGTAGTGCGATACGATACCGCCCATTACCGACGCCCCATTATCTCGGTAGTGCGATACCGACGCCCATTACCGACGCTTAATCCCGCCGTTAACCCACCATCACGATTTTCACGATACCGACGCTTAATCCCGCCGTTAACCCACCATCACGGATTTTCACGATACCGACGCTTAATCCCGCCGTTAACCACCATCAACAGGATTTTCACGATACCGAACCCATCAACGCTTAATCCCGCCGTTAACCACCATCAAACAGGATTTTCACGATACCGAACCCATCAAACCAGGACCCGTTAACCCACCATCAAACCAGGACCATCAAACCAGGACCCTTAATCCCGCCGTTAACCACCCATCAAAACCAGGACCAGCGGTGAACTCTCAAACAGGACCATCAAACAGGACCTTAATTTCACGCTCCAACACCACCAGGACCCTTAATCCCAGGACCCATCAAACAGGACCAGCAGCGGTGAACTCTTAAACCAACACCACCAGCAGCGGTGAACTCTTAAACCAACAACAACAACAACAACAACAACAACA	961 GCCTGCTGGGGCCAAACCAGCGTGGACCTTGCTGCAACTCTCTCAGGGCCAGGGGGTGA	CACACATTCTCATGTTTGACAGCTTATCATCGACTGCACGTGACCCTATGCCCCCCCC	1441 ATTGTGAGGGATAACATTTCACAGGAAACAGCCAGTCGTTTAGGTGTTTTCACGA 1500 1441 ATTGTGAGCGGATAACAATTTCACAGGAAACAGCCAGTCGTTTAGGTGTTTTCACGA 1500 1441 ATTGTGAGCGGATAACAATTTCACAGGAAACAGCGTCTTTTCACGA 1500 1501 GCACTTCACCACAAGACATTATGAAAACTGAAAAGATTTTCACGATAATCTGG 1560 1501 GCACTTCACCACAACAGGACCATTAGATTATGAAAACTGGTAATCTGG 1560 1501 GCACTTCACCACAACAGGACCATTAGATTATGAAAATTCGAGAAAATTCTGG 1560 1501 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAAATTCGAGAAAAGAT 1620 1501 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAAAATTCGAGAAAAGAT 1620 1501 ATTAACGGCGATAAAGGCTTCTGACGCTCGCTGAAGTCGGTAAAAATTCGAGAAAAGAT 1620 1601 ATTAACGGCGATAAAGGCTTCTGACGATCGGAAAAGTTCCCACAGGGTT 1680

g

```
1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCTGCTGGGGGCAAACCAGGGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGGGGA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT 1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGT 1620
                                                                TIGCTGIGGAAGCIGCCTGCACTAAIGTICCGGCGTIAITITCTIGAIGICTCTGACCAGA 540
                                                                                                                                 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAAATTCAGCCGATAG 720
                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960
                                                                                                                                                                                                           CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                    781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                           TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                  CGGAACGGGAAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                       961 GCCTGCTGGGCAAACCAGCGTGGTGGCTGCTGCTGCAAACTCTCTCAGGGCCAGGGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGAAAAAGAAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1321 TGTCGCTCAAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCACTTCACCAACAAGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1441 ATTGTGAGGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                           541
                                                                                                                                            601
                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                         541
                                                                                                           601
                                                                                                                                                                              199
                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1261
                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1561
                                     ò
                                                                염 상 염
                                                                                                                                                                   2 8 2 8
                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                              8 B 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                상
원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                         RESULT 7

US-10-149-472-5

Sequence 5. Application US/10149472

Sequence 5. Application No. US20040029204a1

GENERAL INFORMATION:
APPLICANT: GOUBIN-GRAMATICA, FRANCOISE
APPLICANT: GOUBIN-GRAMATICA, FRANCOISE
APPLICANT: DUCOMMUN, BERNARD
APPLICANT: PREVOST, GREGOIRE
TITLE OF INVENTION: METHOD FOR OBTAINING HUMAN CDC25 PHOSPHATASES AND METHOD
TITLE OF INVENTION: FOR IDENTIFYING HUMAN CDC25 PHOSPHATASE MODULATORS
TITLE OF INVENTION: METHOD FOR OBTAINING HUMAN CDC25 PHOSPHATASE MODULATORS
TITLE OF INVENTION: METHOD FOR OBTAINING HUMAN CDC25 PHOSPHATASE MODULATORS
TITLE OF INVENTION NUMBER: US/10/149,472
CURRENT APPLICATION NUMBER: FR 99/1572

PRIOR FILING DATE: 2000-12-13
PRIOR APPLICATION NUMBER: FR 99/1572
PRIOR FILING DATE: 1999-12-14
PRIOR FILING DATE: 2000-05-30
PRIOR FILING DATE: 2000-05-21
NUMBER OF SEQ ID NOS: 14
SSOTHARE: PATENTIN Ver. 2.1
SSOTHARE: PATENTIN Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              o,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 GIGICTCTTATCAGACCGTTTCCCGCGTGAACCAGGCCAGCCACGTTTCTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GICAATICAGGGIGAGTGAATGIGAAACCAGTAACGTIAIACGATGGCGAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Trcrcececaacecercaerecerrearcarraacrarecerreareaceagarece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 8101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 // TYPE: DNA
// ORGANISM: Artificial Sequence
// FEATURE:
// OTHER INFORMATION: Description of Artificial Sequence: Synthetic
// OTHER INFORMATION: JM109 / DMAL - Hs Cdc25C strain
US-10-149-472-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2; Indels
2701 GGATCCTCCAGTCCCGGCAAGCCGCCGCGCCTGGTGGGAGG 2741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
82.0%; Score 2705.8; DB 17;
Best Local Similarity 99.9%; Pred. No. 0;
Matches 2707; Conservative 0; Mismatches 2; II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
```

요 ઠે 셤

8 6 6 6

윰 ò

ઠે ద ઠે 셤 ठ 셤

\$ B \$ B \$ B \$

ያ ያ

ያ ያ

g

ò

원 장 8 & 8

8 4 8 4 8 4 8 8

6 6 6

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCAATTCAGGGTGGTGAAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ccacaccarcaarcerecaaaaccrrrceceerareecarcaraceccceeaagaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                            ; OTHER INFORMATION: Description of the artificial sequence: plasmid; OTHER INFORMATION: pMAL-c2x
US-10-343-859-8
                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 81.8%; Score 2701; DB 19; Length 6648; Best Local Similarity 99.8%; Pred. No. 0; Matches 2704; Conservative 0; Mismatches 5; Indels 0;
                                                          RESULT 8

US-10-343-859-8

US-10-343-859-8

Sequence 8, Application US/10343859

PUDLication No. US20040110161A1

GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Method for detecting mute;
TITLE OF INVENTION: MUMBER: US/10/343,859

CURRENT FILING DATE: 2001-07-13

PRIOR FILING DATE: 2001-07-13

PRIOR FILING DATE: 2000-08-04

NUMBER OF SEQ ID NOS: 52

SOFTWARE: PATENTIN VEY: 2.1

SEQ ID NO 8

LENGTH: 6648
                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Artificial sequence
FEATURE:
 2709
GGATCCTCT
            2701 GGATCCTCT
2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
ò
                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                                              2040
                                                                                                                                                                                                                                                                                                                                                                                        2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACAACAATAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                          GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
           GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACACGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCACGCTCGTCGACGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                          GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCTGCTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                                    1621
                                                                                                                                                                                                                                                                                                                                                                                                                                           2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2581
                                                                                                                 1741
                                                                                                                                         1741
                                                                                                                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                                                                                                                        2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2641
            1621
                                                                                                                                                                                                                           1861
                                                                                                                                                                                                                                                                                                                                   1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2401
```

8 8

8 8 8

Pag

GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA GAGATCCCGGCGCCTGGATAAAGAACTGAAAGCGAAAGGTAAAAGCGCGCTGATGTTCAAC TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCAAAAGCG CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGATGGGGGGTTATGCGTTCAAG GGTCTGACCTTCCTGGTTGACTTAAAAACAAACATGAATGCAGACACCGATTAC 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG GCATGGTCCAACATCGACACCAAGAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTC 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGTTGGTGAGCGCAGGTATTAACGCCGCCAGT 2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGCTGATGAAGGTCTG GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTATGTGCGATGATCAACGCC GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG CGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                            1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1500
                                                                                                                                                                                                                                                                                                                          1020
                                                                                                                                                                                                                                                                                                                                                        1020
                                                                                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681 GCGCCAACTGGCCGATGGCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740
                                                                                                                                                                          840
                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                960
                                                                                                                                                                                                                                                                                             960
                                                                                    780
                                                                                                                 780
                                                                                                                                              840
                                                                                                                                                                                                                                   900
                                                                                                                                                                                                      TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                    CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTAACGCGGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                    CGGBACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                    TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                          GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                      GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                     AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                     CGGAACGGGAAGGCGACTGCCATGTCCGGTTTTCAACAAAAACCATGCAAAA
                                                                                                                                              ATGAGGGCATCGTTCCCACTGCGGATGCTGCTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                        Argadedearcerrecearreceargeregradesearcaarregeargeceara
                                                                                                                                                                                                                                                                ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCAAACCGCCTCTCCCCCGCGGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1621
                                                                                                                                                                          781
                                                                                                                                                                                                       841
                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1501
                                                                                    721
                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                        196
                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1321
                             661
                                                          661
                                                                                                                 721
                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                    임
                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                       8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                       8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                           8 8
                                                                           8
                                                                                                           셤
                                                                                                                                             ò
                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Description of the artificial sequence: pMALc2x-mutS OTHER INFORMATION: plasmid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cecessananarcesandesesandesesandesesantantaricesanceseses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Acececerceaaarrereceeeearraaarereeeeeearcaaereeeeee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                   DB 19; Length 9191
                                                                                                                                                                                                                                                                                                                                                                                                                                5; Indels
                                                                                                   mutations in
                                                                                                                                                                                                                                                                                                                                                                                                 81.8%; Score 2698; D
99.8%; Pred. No. 0;
iive 0; Mismatches
                                   SQUENCE 9. Application US/10343859
Fublication No. US20040110161A1
GENERAL INFORMATION:
TITLE OF INVENTION: Method for detecting mutivariant of INVENTION: MUMBER: US/10/343,859
CURRENT APPLICATION NUMBER: US/10/343,859
FRIOR FILING DATE: 2003-11-24
PRIOR PILING DATE: 2001-07-13
PRIOR PILING DATE: 2000-08-04
NUMBER OF SEQ ID NOS: 52
SOFTWARR: PATENTING VET: 2.1
                                                                                                                                                                                                                                                                                             TYPE: DNA ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 99.8
Matches 2701; Conservative
                                                                                                                                                                                                                                                                              LENGTH: 9191
                                                                                                                                                                                                                                                                                                                                                         ; OTHER INFORM
US-10-343-859-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                           -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                            FEATURE:
```

g

a ઠે

ઠે 셤 ઠે g Š 셤

ò

셤

ઠે

ò

g

8 8 8

ያ ይ

g ò

```
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT:
AP
                                                                                                                                                                                                                                                                                                                                                                                       ; LOCATION: (1528)...(3189)
; OTHER INFORMATION: pMBP-c2X-ToxoP30dell1 (52-214aa)
US-10-263-153-40
                                                                                                                                                                                                                                                                                                              TYPE: DNA ORGANISM: Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        중
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ठे
                                                                                                                                                                                                                                                                                                                              2040
                                                                                                                                                                                                                                                                                                                                                                                                       2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2220
                                                                                                                                                                   GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                GAGATCCCGGCGCTGGATAAGAACTGAAAGCGAAAGGTAAGGTGGCGCGCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                                                             2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2460
                                                                                                                                                                                                                                                                                                                                                                                                                          2041 TATGAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1741 GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGGTTCCAGGACAAGCTGTT
                                                                                                                                                                                                                                             GAGATCCCGGCCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                               TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                      CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGGTGACGGGGGTTATGCGTTCAAG
                     GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                            CCGTTTACCTGGGATGCCGTACGTTACAACGCTGAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                      1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2341 CCGAACAAAAAGCTGGCAAAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGATGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCATCGCAGAAGCTGCCTTTAATAAAGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGGTGACTGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461 TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCAGCGGTCGTCAACTGTCGATGAAGCCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2641 AACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGATCC 2706
                     1741
                                                                                                                                                                                                           1861
                                                                                                                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                                                                                                                                                                               2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2221 (
                                                                                            1801
                                                                                                                                                                   1861
                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                             1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2701
                                             엄
                                                                                        8 6
                                                                                                                                                              ठे वि ठे
                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                            g
                   ò
                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             કે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        දු පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 8 8
```

ô 120 180 240 180 240 300 300 360 360 420 420 480 480 540 540 600 900 999 9 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 181 CGCGGGAAAAAGTGGGGGGGGGAGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC ACGCGCCGTCGCAATTGTCGCGCGCATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATATGCCG 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC restricion de la restriction de CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 1 ccgacaccarcgaargergcaaaaccrrrcgcggrargcargaragcgcccggaagaga 301 ACGCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAAGCCTGTAAAGCGGCGGCGGTGCACAATC 361 TGGTGGTGCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC TICTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TIGHTHING CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGGACTGGGCGTGGGCGTC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA Gaps DB 18; Length 7112; ; 0 6; Indels Query Match
81.5%; Score 2690.4;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches 601 661 Db ò

US-10-263-153-40 ; Sequence 40, Application US/10263153

1741 GCTCANTCTGGCCTGATAGCTGAAACGCCAAAACGCTTCCAGGCAAAACCTGTT 1800	RESULT 11 US-10-263-153-30 IS Square 30, Application US/10263153 Publication No. US20040067239A1 GENERAL INFORMATION: APPLICANT: Abbott Laboratories APPLICANT: Maine, Gregory T. APPLICANT: Patel, Chandu B. APPLICANT: Ginsburg, Sanford R. APPLICANT: Bliese, Timothy R.
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6	NE NO
	1621 ACCGGAATTAAAGTCACCGTGACATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 1681 GCGGCAACTGGCGATGGCCTGACATTATCTTCTGGGCACACGGCTTTGGTGGCTAC 1740 1181 GCGCCAACTGGCCATGACATTATCTTCTGGGCACACGGCTTTGGTGGCTAC 1740 1681 GCGCCAACTGGCCATGACATTATCTTCTGGGCACACGGCTTTGGTGGCTAC 1740 1741 GCTCAATCTGGCCTGTTGGTGAAATCACCCCGGACAAGACGTTTGGTGGTAC 1740 1741 GCTCAATCTGGCCTGTTGGTGAAATCACCCCGGACAAGACGTTTGGTGGTAC 1800

```
1080
                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                                       1200
                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                    1020
                                                                                                                                                                                                                                                                                                                                                                                                                           1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1680
                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA 1920
                840
                         ACGATACCGAAGACAGCTCATGTTATATCCCGCGCTTAACCACATCAAACAGGATTTTC
                                                                                                                                                                                                                AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                               GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                             GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                      TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                             TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                             ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                  CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                   CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTAA
                                                                                                                                                                                                                                                                                                                                                                    GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                         1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACTTCACCAACAAGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1381 CIGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCAACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGCAACTGGCCGTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ccentraccressarsccsracerracaacscaascrearrectracccsarcscretr
                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1321
            781
                                  781
                                                            841
                                                                                     841
                                                                                                              901
                                                                                                                                     901
                                                                                                                                                                                       196
                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1381
                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1861
                                                         à
                                                                                임
                                                                                                    8 %
                                                                                                                                                       P &
                                                                                                                                                                                                        8 S
                                                                                                                                                                                                                                                                                                                                    8 & B
                                                                                                                                                                                                                                                               $ B $
                                                                                                                                                                                                                                                                                                                                                                                                              ठे व ठे व
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \dot{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 S
                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                       61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGAACGGGAAGGCCACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780
                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAACTGGCGGGCAAACAACTGTTGCTGGTTGCCTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCTGCGTCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 CGCGGGAAAAAGTGGAAGCGGCGATGGGGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGCGCTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCGAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                           7259;
TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REFERENCE: 6984.US.01
CURRENT APPLICATION NUMBER: US/10/263,153
CURRENT FILING DATE: 2002-10-22
NUMBER OF SEQ ID NOS: 74
SOFTWARE: PastSEQ for Windows Version 4.0
LENGTH: 7259
                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                 6; Indels
                                                                                                                                           18;
                                                                                                                                                                                                                        В
                                                                                                                                                                                                                     81.5%; Score 2690.4;
99.8%; Pred. No. 0;
cive 0; Mismatches
                                                                                                                  TYPE: DNA
ORGANISM: Toxoplasma gondii
                                                                                                                                                                                                                   Query Match
Best Local Similarity 99.8°
Matches 2694; Conservative
                                                                                                                                                                                                                                                                        -
                                                                                                                                                                                                                                                                                               П
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
```

g

ò

ద

ò

g

g

ò g ठे 음 상 음

8 6 8 6 8 6 8 6 8 6 8 6

ò

ò

ઠે g ઠે

```
ö
                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                   9
                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAAACCAGTAACGTTATACGATGTCGCGGAGAGTATGCCG
                                                                                                                                                                                                                                                                                                  CGCGGGGAAAAAGTGGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                        TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGACACCATGGATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                          AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTCGATGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                   CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCCGCGGCGCCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                         Gaps
                                                                                                                                 DB 18; Length 7322;
                                                                                                                                                         ;
0
                                                                                                                                                         6; Indels
; SEQ 1D NO 35

: LENGTH: 7322

: TYPE: DNA

: TYPE: DNA

: REATURE:

: RAME/KEY: CDS

: LOCATION: (1528)...(3399)

: OTHER INFORMATION: pMBP-c2X-Toxop30de110 (52-284aa)

US-10-263-153-35
                                                                                                                                Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                Query Match
Best Local Similarity 99.8%;
Matches 2694; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                   ч
                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                          н
                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               상 염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                   8
                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                            2100
                                                                                                                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                                2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2640
                                                                  1980
                                                                                           2040
                                                                                                                    2040
                                                                                                                                                                       2100
                                                                                                                                                                                               2160
                                                                                                                                                                                                                       2160
                                                                                                                                                                                                                                                2220
                                                                                                                                                                                                                                                                         2220
                                                                                                                                                                                                                                                                                                   2280
                                                                                                                                                                                                                                                                                                                           2280
                                                                                                                                                                                                                                                                                                                                                     2340
                                                                                                                                                                                                                                                                                                                                                                              2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCACGCC
                                                                                         CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGGTTATGCGTTCAAG
                                                                                                                                            TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                    2041 TATGAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                          GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACACATGAATGCAGGACACCGATTAC
                                                                                                                                                                                                                                                            GAAGCGGTTAATAAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                         GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                      GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATCTTCAAC
                                                                                                                   crecaagaacceractreaccreececreatrecrecreaceacearrarecerreaae
                                                                                                                                                                                               GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAAGCATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                   GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                     AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 12
US-10-263-153-35

US-10-263-153-35

SQUENCE 35, Application US/10263153

PUBLICATION NO. US20040067239A1

GENERAL INFORMATION:

APPLICANT: Maine, Gregory T.

APPLICANT: Patel, Chandu B.

APPLICANT: Bliese, Timchy R.

TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,

TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF

FILE REPERENCE: 6984 US.O.

CURRENT APPLICATION NUMBER: US/10/263,153

CURRENT PILING DATE: 2002-10-22

NUMBER OF SEQ ID NOS: 74

SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                      2101
                                                                                                                                                                                                                                                                         2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2461
                                                                                                                    1981
                                                                                                                                                                                                                                               2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2641
                                                                                                                                             2041
                                                                                                                                                                                                                                                                                                                                                     2281
                                                                                                                                                                                                                                                                                                                                                                              2281
                                                                                                                                                                                                                                                                                                                                                                                                        2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2581
                                        1921
                                                                 1921
                                                                                           1981
                                                                                                                                                                                              2101
                                                                                                                                                                                                                                                                                                   2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2461
                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                            8
                                                                                                                                                            a
                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                     유
상
                                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
```

1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTCGTGCTGCGGGGGGTTCAAG 2040 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGTTTGTTTTTTTT	RESULT 13 US-10-263-153-25 Sequence 25, Application US/10263153 Publication No. US20040067239A1 Sequence 25, Application US/20263153 Publication No. US20040067239A1 APPLICANT: Abbott Laboratories APPLICANT: Maine, Gregory T. APPLICANT: Patel, Chandu B. APPLICANT: Bisee, Timothy R. TITLE OF INVENTION: GENETICALY ENGINEERED P30 ANTIGEN, TITLE OF INVENTION: GENETICALY ENGINEERED P30 ANTIGEN, TITLE OF INVENTION: UNPROMED ANTIGEN COCKTAIL, AND USES THEREOF TITLE OF INVENTION: UNPRER: US/10/263,153 CURRENT PILLING DATE: 2002-10-22 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 25 LENGTH: 735. TYPE: DNA ORGANISM: Toxoplasma gondii PEATURE: NAME/KEY: CDS LOCATION: (1528)(3429)
7 1 − 1	

<pre> ; OTHER INFORMATION: pMBP-c2X-ToxoP30del4C (52-294aa) US-10-263-153-25 Query Match Bact Local Similarity 90 84: Brood No. 0.</pre>		GCCTGCTGGGGGCAAACCAGCGTGGACGGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAA
18; Fred. No. 0; 0; Mismatches 6; Indels SGTGCAAAACCTTTCGCGGTATGGCATGATAG	8 & 8	
1 CCGACACCGTAGGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60 61 GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120 61 GTCAATTCACGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120 61 GTCAATTCACGATGAAACATGTAAAACAGAAAAAAAAAA	& 음	CCCGACTGGAAAGCGGGCAGTGAGCGCAATTAATGTGAGTTAGCTCACTCA
GTGTCTTTATCAGACGGTTCCGCGTGGTGGACACCAGCCAG	ò 8	GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGGCGT[
181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 	S S	TCAGGAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
241 AACAACTGGCGGCAAACGGTCGTTGCTGATTGCCGCCTCCAGTCTGGCCCTGC 300 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC 300	දු දු	
ACGCGCCGTCGCAAATTGTCGCCGCGATTAAATCTTCGCGCCGATCAACTGGGTGCCAGCG	ර් යි	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440
TGGTGGTGTCGATGGTAGAACGAAGCGGCTCGAAGCCTGTAAAGCGGCGGTGCACAATC 	& g	
TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA	රු පු	1501 GCACTTCACCAACAAGGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560
TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA	දුරු සු	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620
CACCCATCAACAGTATTATTTTCCCATGAACACGGTACGCACTGGGGGGGG	<i>8</i>	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGGTT 1680
TGGTCGCATTGGGTCACCAGCAAATCGGGCTGTTAGCGGCCCATTAAGTTCTGTCTCGG	ò q	1681 GCGGCAACTGGCCGATGCCCTGACATTATCTTCTGGGCACACGCCTTTGGTGGCTAC 1740
CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG	ò a	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800
CGGAACGGGAAGGGACTGGAGTGCCATGTTCGGTTTTCAACAAACCATGCAAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCAATGCATGAATGCTGAATGCTATGCAATTGCAATGCTATGCAATGCTATGCAATGCTATGCAATGAACAAAACAAAAACAATGCAAAATGCAATGCAATAGCAATAGCAAAAACAAAAACAAAAACAATGCAAAAAACAAAAACAAAAAACAAAAAAAA	රු අ	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA	& a	1861 GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
	ov G	
901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	දු පු	1981 CTGCAAGAACGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTANGCGTTCAAG 2040
GCCTGCTGGGGGCAACCGGTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA	ço qa	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCTGGATAACGCTGGCGAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100

180 120 120 240 240 300 300 360 1020 1020 360 420 420 480 480 540 540 600 9 9 600 9 99 720 720 780 780 840 840 900 900 960 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG GIGICICITAICAGACCGITICCCGCGGGGGGGGAGGCCAGCCACGITICTGGGAAAA CGCGGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGGCAC ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG CGCGGGAAAAAGTGGAAGCGGCGATGGTGAATTACATTCCCAACCGCGTGGCAC AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC TGGTGGTGTCGATGGTAGAACGAAGGGGTCGAAGGCCTGTAAAAGCGGCGGTGCACAATC TTCTCCCCCAACGCGTCAGTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTTCTTGATGTCTCTGACCAGA CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG ATGAGGGCATCGTTCCCACTGCGATGCTGGCTACCAACGATCAGATGGCGCTGGGCGCAA TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGATATCTCGGTAGTGGGATACG 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC GCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGTGA GCCTGCTGGGGCAAACCAGCGTGGAACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA

		CCGAACAAAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTAICTGCTGATGATGAAGGACTCG 2400 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460		TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	TIGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTG	CGGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGGCGCAGACTAATTCGAGCTCG 2640	GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	AACAACAACAACAACAATAACAATAACAACCAACCTCGGGATCGAGGGGAAGGATTTCAGAATTC 2700	AACAACAATAACAATAACAATAACAACCTCGGGATCGAGGGAGG	
2281	2341	2341	2401	2461	2461	2521	2521	2581	2581	2641	2641	
a	8 :	8 8	쇰	ò	Dp	ò	ą	ò	đ	È	QΩ	

Search completed: August 3, 2005, 04:22:00 Job time: 1317.2 secs



Appli

Sequence Sequence

Sequence Sequence

Appli Appli Appli Appli Appli

Sequence

Н

OM nucleic

Run on:

Sequence:

Searched:

Database

Result

```
CZPH: 07110
CZPH: 07110
CZPH: 07110
CZPH: 07110
MEDIUM TYPE: Floppy disk
CCMPUTER: END PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/971,036
FILING DATE: 14-NOV-1997
CLASSIFICATION NUMBER: GB 9623908.2
FILING DATE: 18-NOV-1996
ATTORNEY/AGENT INPORMATION:
NAME: REFEASIOR, Lewis J
REGISTRATION NUMBER: BAN 4430/073
TELEPHONE: (973) 235-4387
TELEPHONE: (973) 235-2363
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 7475 base pairs
TYPE: MOLOLeic acid
STRANDEDNESS: double
                                                 US-08 891-848-2
US-08 125-462-5
US-08-128-314-4
US-09-128-314-4
US-09-128-314-4
US-09-072-596-213
US-09-287-849-9
US-09-480-884A-254
US-09-543-597-254
US-09-543-597-254
US-09-543-597-254
US-09-543-6153-254
US-09-476-496A-254
US-09-411-254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81.8%; Score 2700;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO
circular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE: N.J.
COUNTRY: U.S.A.
ZIP: 07110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nutley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-971-036-1
                                                                                                                                                                                                                                                                                                                                                                   1199.2
1199.2
1199.2
1199.2
                                                                                                            11999.2
11999.2
11999.2
11999.2
11999.2
11999.2
11999.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 1
  Sequence 1, Appli
Sequence 1, Appli
Sequence 3, Appli
Sequence 2, Appli
Sequence 5, Appli
Sequence 18, Appli
Sequence 18, Appli
Sequence 21, Appli
Sequence 35, Appli
Sequence 785, Appli
Sequence 786, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       784, App
784, App
7, Appli
                                                                                                                                                                                           August 2, 2005, 10:29:49; Search time 352.4 Seconds (without alignments) 15322.682 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                        1 ccgacaccatcgaatggtgc......acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Issued_Patents NA:*
1: /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/1/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/1/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/1/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
6: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
                             GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-971-036-1

US-09-06-570-1

US-09-026-570-1

US-09-027-169-3

US-09-640-882-3

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-103-35

US-08-103-35

US-09-702-705-785

US-09-712-705-785

US-09-671-124B-785

US-09-671-124B-784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -09-658-824-784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -09-589-184-784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-589-184-784
US-09-658-824-784
US-08-646-538-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1202784 seqs, 818138359 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                         - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                             IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                              US-09-765-555B-16
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5873
6353
6353
6353
6353
6353
6353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \begin{matrix} \mathbf{u} & \mathbf{u} 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1199.2
1199.2
1199.2
1199.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1417.6
1362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1199.
```

Length 7475;

DB 2;

1021 AGGGCAATCAGTGTTGCCCGTCTCACTGGTGAAAAAAAAA	1261	1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 1501 GCACTTCACCAACAGGACCATAGATTATGAAAACTGAAGGAAAACTGGTAAACTGGTAATCTGG 1560 1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGGAAAACTGGTAATCTGG 1560 1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGGAAAAGATCGGTAAACTGGTAAACTGGTAAAAGATTATGAAAACTGGTAAAAAAATTATGAAAAAAAA	1561 ATTAACGGGGTATAAGGGTATAACGGTCTCGGCTAAGAATTCGAGAAAGGT 1620 1621 ACCGGAATTAAGTCACCGTTGAGCATCCGGATAAACTCGAGAATTCCGAGAAGGT 1680 1621 ACCGGAATTAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAGTCACCGTTGAGCATCAGGATAAACTGGAAGAAGAATTCCCACAGGTT 1680 1681 GCGGCAACTGGCGAGCACCCCTCACATATCTTCTGGGCACACGCTTTGGTGGCTAC 1740 1681 GCGGCAACTGGCGATGGCCCTCACATATCTTCTGGGCACACGCTTTGGTGGCTAC 1740 1681 GCGGCAACTGGCGATGGCCCTCATATCTTCTGGGCACACCACCTTTGGTGGCTAC 1740	GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTATGCTCAATCTGGCTGAATCGCCCGGACAAAGCGTTCCAGGACAAGCTGTATGCTCAATCTGGCTTCCAGGACAAGCTGTATGCTTATCCAGGACAAGCTGTATCCCGTTACCCGGATGCCGTTACCCGATGCCGTTACCCGATGCTTACCCGATCGCTGTTTACTTAC	192 192 198 198	1981 CTGCAAGAACCTAACTICACTGATTGCTTACGGGGGGTTATGCGTTCAAG 2040 1981 CTGCAAGAACCTTCACCTGGCCGCTGATTGCTTGCTTCAAG 2040 2041 TATGAAAACGGCAACTTCACCTGGCCGCTGATTGCTGGCGGGGTTATGCGTTCAAG 2040 2041 TATGAAAACGGCAAGTACGACATTAAAAACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAAACGAGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAACACTGAATGCAGACACGATTAC 2160 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAACACTGAATGCAGACCGATTAC 2160 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAAA
8 8 8 8 8 8 8	a & a & a	8 8 8 8	4 6 6 6	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8 8 8 8	66666
Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0; 1 CCGACACCATCGAATGCTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAG 60 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60 61 GTCAATTCAGGGTGGTAATGTGAAACCGTAAACGTTATACGATGTCGCAGAGAGA 60 61 GTCAATTCAGGGTGGTGAATGTGAAACCGTAAACGTTATACGATGTCGCAGAGTATGCC 120 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCC 120 121 GTGTCTTTATCAGACCGTTTCCCGGGTGGTGAACCAGCCCAGCCAG	181 CGCGGGAAAAAGTGGAACGGCGAAGTGGCGGAGTTGATTTCCCAACCGCGTGGCAC 240 241 AACAACTGGCGGCGAACGGCGAGCTGAATTACATTCCCAACTGGCGCTGCAC 240 241 AACAACTGGCGGCGAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC 300 241 AACAACTGGCGGCGAAACAGTCGTTGCTGATTGGCGTTGCCACTTCGAGTCTGGCCTGC 300 301 ACGGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGCTGG) 4 4 4 4 7	CCAGA GCATC GCATC GCATC GCATC	GGGTCTGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGT CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCC [901 ACGATACGAAGACAGCTCATGTTATATCCCGCGGTTAACCACCATCAAACAGGATTTTC 960 901 ACGATACCGAAGACAGCTCATGTTATTCCGCCGTTAACCACCATCAAACAGGATTTTC 960 901 ACGATACCGAAGACAGCTCATGTTATTCTGCGCCATCAAACAGGATTTTC 960 961 GCCTGCTGGGGCAAACCAGGTGGACGCTTGCTGCAACTCTCAGGGCCAGGCGGTGA 1020 961 GCCTGCTGGGGCAAACCAGGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 1021 AGGGCAATCAGGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 1021 AGGGCAATCAGCCCGTCTCACTGGTGAAAAAAAAAAACACCCTGGGGCCCAATA 1080

ö

240 240

180

요

ઠ 셤 ઠે a g

8

540 540 900 9 99 9 720 780

780

쉱

g ઠે

õ

ద ò 셤 ઠે 셤 ò

```
180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGGGAAAAAGTGGAAGCGGCGATGGGGGGGGGGGGGTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGAACGGGAACGCGACTGCCATGTCCGGTTTTCAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGTGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                         1 cceacaccarcearregrecaaaaccrrrceceerareecarearaececceeaaeaea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCCCCTCCCAAATTGTCGCCCCATTAAATCTCGCCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGAACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                         CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                        GTGTCTCTTATCAGACCGTTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                            Length 7475;
                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                            DB 3;
                                                                                                                                                                                                                          Score 2700;
Pred. No. 0;
                                                                                                                                                                                                                                                          0; Mismatches
REFERENCE/DOCKET NUMBER: RAN 4430/073
TELECOMMUNICATION INFORMATION:
TELEPHONE: (973) 235-4387
TELEFAX: (973) 235-2363
INFORMATION FOR ESC ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 7475 base pairs
                                                                                                                                                                                                                          81.8%; S
100.0%;
                                                                                                                                          TOPOLOGY: circular
MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                           Conservative
                                                                                                            TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: circular
                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                           Best Local Simi
Matches 2700;
                                                                                                                                                                                ; HYPOTHETIC.
US-09-096-570-1
                                                                                                                                                                                                                                                                                           ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                            Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                         2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                  2220
                                                                                2280
                                                                                                                                               2340
                                                                                                                                                                             2340
                                                                                                                                                                                                           2400
                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                          2520
                                                                                                                                                                                                                                                                                                                                                                         2520
                                                                                                                                                                                                                                                                                                                                                                                                         2580
                                                                                                                                                                                                                                                                                                                                                                                                                                       2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                         GAAGCGGTTAATAAAGACAAACCGCTGGTGCCGTAGCCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                        TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                       GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                            2401 GAAGCGGTTAATAAAGACAAACCGCTGGCTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                      2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2641 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                GCATGGTCCAACATCGACACCCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                               AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                           GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: U.S.A.

ZIP: 07110

COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/096,570
FILING DATE:
PRIOR APPLICATION:
PRIOR APPLICATION WHEER: 08/971,036
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Application US/09096570; Patent No. 6018020; GENERAL INFORMATION:
APPLICANT: Attwood, Michael R
APPLICANT: Hurst, David N
APPLICANT: Yones, Philip S
APPLICANT: Raynham, Tony M
APPLICANT: Raynham, Tony M
APPLICANT: Raynham, Tony M
APPLICANT: Wilson, Francis X
ITILE OF INVENTION: Amino Acid Derivatives
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Hoffmann-La Roche Inc
STREET: 340 Kingsland Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Kreisler, Lewis J
REGISTRATION NUMBER: 38522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nutley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: N.J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-096-570-1
                                                                                                                                                                                                                                                                                                                                          2461
                                                                                                              2221
                                                                                                                                                                           2281
                                                                                                                                                                                                           2341
                                                                                                                                                                                                                                                                          2401
                                                2161
                                                                                2221
                                                                                                                                             2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                  2161
```

1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGCGCGCTGATGTTCAAC 1980	Db 2041		2401 2401 2461 2461		
841 TGCGCCCATTACCGAGTCCGGGCTTGCTGCGGATATCTCGGTAGTGCGATACG 900		CCCGACTGGAAGCGGGCGGGGGAATGATTAATGTGAGCTGACAACACACAC	131 TGTGGCTCAGCGATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCGCTGCATAATTCG 1320 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGCATAATGTTTTTTGGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1381 CTGGCAAATATTCTAAATGAGTGTTGAAATAATCATCGCCCGACATAAATGTGTGGA 1440 1381 CTGGCAAATATTCTGAAATGAGTGTTGACAATTAATCATCGGCTCGTATAAATGTGTGGA 1440	GAGCGGATAACAATTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 150	

us-09-765-555b-16.rni

	AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAA	CGCAAACCGCCTCTCCCCCGCGTTGGCCGATTCATTAATGCAGCTGGCCACGACAGCTTTTCATTAATGCAGCTGGCCACGACAGGTTTTCATTAATGCAGCTGGCCACGACAGGTTTTCATTAATGCAGCTGGCCACGACAGGTTTTTCATTAATGCAGCTGGCCACGACAGGTTTTCATTAATGCAGCTGGCCACGACAGGTTTTCATTAATGCAGCTGGCCACGACAGGTTTTCATTAATGCAGCTGGCCACGACAGGTTTTCATTAATGCAGCTGGCCACGACAGGTTTTCATTAATGCAGACAGGACAGGATTTCAATGCAGAAGAAAAAAAA			TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 	TGTCGCTCAAGCCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCCGACATCATAACGGTTTTGTGCGCCGACATCATAACGGTTTTGCGCCCGACATCATGACGGTTTTGCGCCCGACATCATGAGTGTTTTTTGCGCCGACATCATAACGGTTAACGGTTTTTTTGCGCCGACATCATAACGGTTAACGGTTTTTTTT		1441 ATTGTGAGGGATAACAATTTCACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 	1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560 	ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT 	ACCGGAATTAAAGTCACCGTTCAGCATCCGGATTAAACTGGAAGAAATTCCCACAGGTT 	GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGGACACGACCGCTTTGGTGGCTAC [GCTCANTCTGGCCTGTTGGCTGAATCACCCGGACAAGCGTTCCAGGACAAGCTGTAT 	ccGTTTACCTGGGATGCCGTACGTTACACGGAAGCTGATTGCTTACCCGATCGCTGTT 	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCCCAAAAACCTGGGAA 1920 	1921 GAGATCCCGCCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCGGCTGATTGCTGCTGAGGGGGGTTATGCGTTCAAG 2040
ବର ବର	& 9 g	· 유 전	ð 8	ර් සි	& 8 8	& 8	oy Op	\$ 8 8	S S	S G	g G	<i>상</i> 셤	& 8 8	රු පි	<u>В</u> 6	A 4	ò
LENGTH: 7475 TYPE: DNA PREATURE: PEATURE: OTHER INFORMATION: Description of Artificial Sequence: Vector and MOTHER INFORMATION: Gene Fragments	7	Oy 1 CCGACACCATCGATGGTGCAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	Qy 61 GTCAATTCAGGGGGGGGGAATGTGAAACCAGTAATACGATGTCGCAGAGTATGCCG 120 Db 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120	Oy 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGACCAGGCCACGTTTCTGCGGAAAA 180 121 GTGTCTTTATCAGACCGTTTCCCGCGTGAACCAGGCCAGCCA	CGCGGGAAAAAAGTGGAAGCGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACGCGTGGCACGCGTGGCACGCGTGGCACGCGTGGCACGCGTGAATTACATTCCCAACCGCGTTGCTACACGCGTGGCAACGCTGAATTACATTCCCAACCGCGTTGCAACGCGCAACGCTGAATTACATTCCCAACCGCGTTGCAACGCGCAACGCTGAATTACATTCCCAACCGCGTTGCAACGCGCGTTGCAACTGCAACGCCGCGTTGAATTACATTCCCAACCGCGTTGCAACGCGCGAACGCTGAATTACATTCCCAACCGCGTTGCAACGCGCGAACGCTGAATTACATTCCCAACCGCGTTGCAACGCCGAACGCTGAATTACATTCCCAACCGCGTTGCAACGCCGCGTTGCAACGCCGCGTTGCAACGCCGCGTTGCAACGCCGCGTTGCAACGCTGAACTGCAACGCCGCGTTGCAACGCTGAACTGCAACGCCGCGTTGCAACGCCGCGTTGCAACGCTGCAACCGCGTTGCAACGCTGAACTGCAACGCTGAACTGCCGCGTTGCAACCGCGTTGCAACGCTGAACTGCTGCAACGCTGAACTGCCGCGTTGCAACGCTGCAACGCTGAACTGCAACGCTGCAACTGCAACGCTGCAACGCTGAACTGCTGCAACGCTGCAACGCTGCAACGCTGCAACGCTGAACTGCTGCAACGCTGCAACGCTGAACTGCTGCAACGCTGAACTGCTGCAACGCTGAACTGCTGCAACGCTGAACTGCTGCAACGCTGAACTGCTGCAACGCTGAACTGCTGAACTGCTGCAACGCTGAACTGAACTGCTGAACTGAACTGCTGAACTGCTGAACTGAACTGAACTGCTGAACTGAACTGCTGAACTAACT	CCTGC 	Qy 301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCCGGTCGATCAACTGGGTGCCAGCG 360 Db 301 ACGCGCTCGCAAATTGTCGCGGCGATTAAAATCTCGCGCCCGATCAACTGGGTGCCAGCG 360	361 TGGTGGTGCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 	421 TTCTCGCGCAACGCGTCAGTCGGCTGATCATTAACTATCGGCTGGATGACCAGGATGCCAA21 TTCTCGCGAACGCGTCAATCGATCGATCATTAACTATCAGATCGGTGGATCGATC	481 TTGCTGTGGAAGCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA	Oy 541 CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGACCATC 600 Db 541 CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGACCATC 600	Qy 601 TOGSTCGCATTGGGGTCACCAGCAAATCGCGGTTTAGCGGGGCCCATTAAGTTCTGTCTCGG 600 TOGSTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 600 TOGSTCGCATTGGGTCACCAGCAAATCGCGCTGTTAAGCGCGGCCCATTAAGTTCTGTCTCGG 600 TOGSTCGCATTGGGTCACCAGCAAATCGCGCGGCCCCATTAAGTTCTGTCTCGG 600 CONTRACTAGGGTCACCAGCAAAATCGCGCGGGCCCCATTAAGTTCTGTCTCGG 600 CONTRACTAGGGTCACCAGCAAAATCGCGCGGGCCCCATTAAGTTCTGTCTCGG 600 CONTRACTAGGGTCACCAGCAAAATCGCCGTGTTAAGCGGGCCCCATTAAGTTCTGTCTCTGG 600 CONTRACTAGGGTCACCAAAAAATCGCCCGTTAAGCGGGCCCCAATTAAGTTCTGTCTCTGG 600 CONTRACTAGGGTCACCAAAAAAAAAAAAAAAAAAAAAAAAAA	Oy 661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCGCAATCAAATTCAGCCGATAG 720	Qy 721 CGGAACGGGACTGGACTGCCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780	Qy 781 ATGAGGGCATCGTTCCCACTGCCATGCCAACGATCAGAGGCGCTGGGCGCAAAAAAAA	841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG	Db 841 TGCGGGCCATTACCGAGTCCGGGCTGGGGGTGGGGGATATCTCGGTAGTGGATAGC 900 Qy 901 ACGATACCGAAGACAGCTCATGTTATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960

g ò g ò 셤 ò g ઠે g ò g ò 엄

```
1324 CAACTGGCGGGGAAACAGTCGTTGCTGATTGCCGTTGCCACTCCAGTCTGGCCCTGCAC 1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1504 CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGGGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCTTTCTGCGAAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGAAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243 CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1384 CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1144 CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGCACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         904 CGTCTGCGTCTGGCTGGCTGAGTAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAACGGGAAGGCGACTGGAGTGCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         844 GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGCTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              363 GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCGCGCAACGCGTCAGTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                  DB 3; Length 5926;
                                                                                                                                                                                                                                                                                                                                                                         12;
                                                                                                                                                                                                                                                                                                                                                                       9; Indels
                                                                                                                                                                                                                             ; TOPOLOGY: circular
; MOLECULE TYPE: other nucleic acid
; BESCRIPTION: /desc = "pEM delta R.adj to 1"
US-09-027-169-3
                                                                                                                                                                                                                                                                                                                              Score 1417.6;
Pred. No. 0;
0; Mismatches
  NAME: Brown, Anne
REGISTRATION NUMBER: 36,463
REFERENCE/COCKET NUMBER: 5789-3
TELECOMMUNICATION INFORMATION:
TELEFAX: 919 420 2205
TELEFAX: 919 801 3175
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 5256 base pairs
ITYPE: nucleic acid
STRANDEDNESS: single
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                Query Match
43.0%;
Best Local Similarity 98.6%;
Matches 1455; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123
                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          663
                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040
                                                 2100
                                                                                                                                                                                                         2220
                                                                                                                                                                                                                                                                                     2280
                                                                                                                                                                                                                                                                                                                        2280
                                                                                                                                                                                                                                                                                                                                                               2340
                                                                                                                                                                                                                                                                                                                                                                               2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2700
                                                                                                                                                                                                                                                                                                 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                   GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                     2101 GGTCTGACCTTCCTGGTTGACTTAAAACAAACACATGAATGCAGACACGGTTAC
                                                                                                                                                                                               TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                         TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                           GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCCAACTTC
                                                                                                                                                                                                                                                                                                                                                       AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2521 CCGAACAICCCGCAGAIGTCCGCTTTTTTGTTTTCCCGTGCGTACTGCGGGGATCCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCAGCGGTCGTCAAAGTCGATGAAGCCCTGAAAGACGCCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2581 GCCAGCGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCCAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2641 AACAACAACAACAATAACAATAACAACAACATCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 3, Application US/09027169
| Patent No. 6420524
| GENERAL INFORMATION:
| APPLICANT: CRAIG.
| TITLE OF INVENTION: GAIN OF FUNCTION MUTATIONS IN
| TITLE OF INVENTION: ATP-DEPENDENT TRANSPOSITION PROTEINS
| NUMBER OF SEQUENCES: 15
| CORRESPONDENCE ADDRESS:
| STREET: 3605 Glenwood Ave.
| CITY: Raleigh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 27608
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: BATENTING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTING SYSTEM: APPLICATION DATA:
APPLICATION NUMBER: US/09/027,169
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 4
US-09-027-169-3/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                       2041
                                                                                                                   2101
                                                                                                                                                                                                 2161
                                                                                                                                                                                                                                    2161
                                                                                                                                                                                                                                                                           2221
                                                                                                                                                                                                                                                                                                                  2221
                                                                                                                                                                                                                                                                                                                                                                                            2281
                                                                                                                                                                                                                                                                                                                                                       2281
                                                                                                                                                                                                                                                                                                                                                                                                                                   2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2461
```

2521

ઠે

g

셤 ò

ò 셤 2581

ઠે

셤

ò 유

1505

62

Gaps

1445

1385

242

1145

422

362

1085

542

1025

182

925 122 985 1105

302

242

1225

362

1165

1285

482

422

1345

542

1405

1465

602

1525

662

722

~

```
CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                              CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                      1346 GCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTTCTTGAGAGCAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1406 CCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAQCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1706 CGCGCCATTACCGAGTCCGGGCTGCGCGTTGCTGCGGGATATCTCGGTAGTGGGGATACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATACCGAAGACAGCTCATGTTATATCCCGCCGTCAACCACCATCAAACAGGATTTTCGC
                                                                   CAATTCAGGGTGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                      GTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAACG
                                                                                                                                                                                                          CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                       GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                             GCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGCTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                            GTGGTCCATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGTCTGCGTCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          crecresescanaccasescasescerrecrecancrecrecrecescensesses
                                                                                                      CAATTCAGGGTGGATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                               GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAAGCCTGTAAAGCGGCGGTGCAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGGGGATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                      3 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                             Gaps
                             5
   Length 5201
                             10; Indels
     4.
   BB
  Score 1362; DB Pred. No. 0; 0; Mismatches
  41.3%;
llarity 99.1%;
Conservative
                 Similarity
 Query Match
Best Local Simi:
Matches 1380; (
                                                                                                                                                                                                                                                                                                                                       1166 (
                                                                                                                                                                                                                                                                                                                                                                                                                                         1286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1766
                                                                                                                                                                                                                                                                                                                                                                                        1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1466
                                                                                                                                                                                986
                                                                                                                                                                                                          183
                                                                                                                                                                                                                                  1046
                                                                                                                                                                                                                                                           243
                                                                                                                                                                                                                                                                                    1106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1826
                                                                                                      63
                                                                                                                               926
                                                                                                                                                       123
                                                                                                                                                                                                                                                                                                             303
                                                                                                                                                                                                                                                                                                                                                               363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       663
                                                                                                                                                                                                                                                                                                                                                                                                                 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           상염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ъ д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                          g
                                                                                                                        셤
                                                                                                                                                                          g
                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                     ò
                                                                                                                                                   ò
                                                                                                                                                                                                       ò
                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/09640882

Sequence 2, Application US/09640882

Sequence 2, Application US/09640882

GENERAL INFORMATION:

APPLICANT: Hall, Barry G.

TITLE OF INVENTION: METHOD OF DETERMINING EVOLUTIONARY POTENTIAL OF MUTANT

TITLE OF INVENTION: EFFICACY

TITLE OF INVENTION: EFFICACY

TITLE OF INVENTION: EFFICACY

FILE REFERENCE: 176/60851

CURRENT APPLICATION NUMBER: 2000-08-18

PRIOR FILING DATE: 1999-08-19

NUMBER OF SEQ ID NOS: 17

SOFTWARE: PATENTIN Ver: 2.1

SOFTWARE: PATENTIN Ver: 2.1
                                                                                                                                          1022
                                                                                                                                                                                            1082
                                                                                                                                                                                                                                                                                                                                                   1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                                                                              CAAACCGCCTCCCCCGCGCTTGCCCGATTCATTGCAGCTGGCACGACAGGTTTCC 1142
                                                                                                                                                                                                                                                                                                AGGCAGCCATCGGAAGCTGTGGTATGCCTGTGCAGGTCGTAAATCACTGCATAATTCGTG 1322
                                                                                                                  605
                                                                                                                                                                   545
                                                                                                                                                                                                                                                                       425
                                         902
                                                                 665
                                                                                          962
                                                                                                                                                                                                                      485
                                                                                                                                                                                                                                                                                                                         376
                                                                                                                                                                                                                                                                                                                                                                            316
                                                                                                                                                                                                                                                                                                                                                                                                                             256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 136
                                                                                       CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                        315 AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCAAATATTCTGAAATGAGGTGTTGACAATTAATCATCCGGCTCGTATAATGTGTGGAA
GAGGCATCGTTCCCACTGCGATGCTGCTTGCCAACGATCAGATGGCTGGGCGCAATG
                                                      CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGCGATATCTCGGTAGTGGGAAACGAC
                                                                                                                                           CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAAATATTCTGAAATGAGCTGTTGACAATTAATCAT-CGGCTCGTATAATGTGTGTGGAA
                                       CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGAC
                                                                                                                                                                                            plasmid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: pACSE2
US-09-640-882-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGTGAGCGGATAACAATTTCACACAGGAAACAGCC 1477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Trereaccearaacaarrrcacacaegaaacagac 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 5201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 5
US-09-640-882-2
                                                                                                                                                                                                                    544
                                                                                                                                                                                                                                                                                                                                                                                                    1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1323
                                                              724
                                                                                                                                                                                           1023
                                                                                                                                                                                                                                              1083
                                                                                                                                                                                                                                                                                                1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1442
                                       843
                                                                                          903
                                                                                                                 664
                                                                                                                                                                   604
                                                                                                                                                                                                                                                                       484
                                                                                                                                                                                                                                                                                                                         424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               195
                                                                                                                                          963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  135
               784
                                                                                                                                                           g
                                                                                                                                                                                                              원
장
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                      ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          쉱
                                                          а
                                                                                                          ద
                                                                                                                                       ઠે
                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                      ò
                                                                                 8
```

1585

1645

782

1705

842

1765

902

1825 1022

1285 1405 1465 1525 1645 1885 2005 1646 GAGGCATCGTTCCCACTGCGATGCTGCTACCATCAGATGGCGCTGGGCGCAATG 1705 1706 CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGAATATCTCGGTAGTGGGATACGAC 1765 1382 482 1322 542 662 782 962 GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT GCTGTGGAAGCTGCCTGCACTAATGTTCCTTGATGTCTTGACGGACA CGTCTGCGTCTGGCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGGTAGCG GCGCCGTCGCAATTGTCGCGCGCATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG GTGGTGCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAAGCGGCGGTGCACAATCTT CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG GTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG CGTCTGCGTCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAGCG 723 GAACGGGAAGGCGACTGGCGTGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTGAGACAAGA 1586 GAACGGGAAGGCGATGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT CGCGCCATTACCGAGTCCGGGCTGCGCTTGGTGCGGATATCTCGGTAGTGGGATACGAC 903 GATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTTCGC CIGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG 1826 CIGCIGGGGCAAACCAGGGGGGGAGCGCTIGCAACACTCTCAGGGGCCAGGCGGTGAAG 2064 TGAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG GGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAAACCACCCTGGCGCCCAATACG CAAACCGCCTCTCCCCGCGCTTGCCCGATTCATTAATGCAGCTGGCACGACAGGTTTCC 2006 CGACTGGAAAGCGGGCAGTGAGGGCAACGCAATTAATGTGAGTTAG--CGCGAATTGATC 1203 ACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3582
                                                                                                        2742
                                                                                                                                                                                                                                             2862
                                                                                                                                                                                                                                                                                                                                                                                                                                                         3042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCGACTGGAAAGCGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTATTAG 1200
                                                                                                                                                            2743 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 2802
                                                                                                                                                                                                                                                                                                                  2922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                        2982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                          240
                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3163 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTCTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3283 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                           2683 GIGICTCTIAICAGACCGTITCCCGCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                               AACAACTGGCGGCGAAACAACTGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                   TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                         2983 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3043 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3223 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3343 ATGAGGGCATCCTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                     2623 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                          CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGGGGGGCGCC
                                                                                                                                                                                                           AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                 ACGCGCCGTCGCAAATTGTCGCGCCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                      TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCATAAATATCTCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGCGAAGCCGACTGGAGTGCCCATGTCCGGTTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cecahacceccrcrcccececerreecearrearrangeaecreecacaecaerr
                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                             241
                                                                                                                                                                                                                                               2803
                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                  2863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                        2923
                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
     61
                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                         121
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                           g
                                                                                                                                                                         g
                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                    8
                                                                                                                                       ŝ
                                                                                                                                                                                                      ठ
                                                                                                                                                                                                                      APPLICANT: UENO, BICHI
APPLICANT: UENO, BICHI
APPLICANT: UENO, BICHI
APPLICANT: OKADA, MASAHISA
APPLICANT: OKADA, MASAHISA
TITLE OF INVENTION: EXPRESSED FROM SAID FUSED PROTEIN
TITLE OF INVENTION: EXPRESSED FROM SAID FUSED DNA SEQUENCE AND METHOD FOR
TITLE OF INVENTION: EXPRESSING SAID DNA SEQUENCE
TITLE OF INVENTION: EXPRESSING SAID DNA SEQUENCE
TORRESPONDENCE: 21
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
ADDRESSEE: P.C.
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
CITY: ARLINGTON
                     2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2563 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 2622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 4557;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: other nucleic acid
MOLECULE TYPE: other nucleic acid
ORIGINAL SOURCE:
ORGANISM: B. COLI
STRAIN: BL21 (DE3)
PUBLICATION INFORMATION:
AUTHORS: NOBUTUKI FUJII ET AL,
AUTHORS: PROBUTUKI FUJII ET AL,
TITLE: FROM SAID FUSED DNA SEQUENCE, AUTHORS AND FUSED PROFEIN
TITLE: EXPRESSING SAID FUSED PROTEIN
RELEVANT RESIDUES IN SEQ ID NO: 5: PROM 1 TO 4557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indela
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 36.5%; Score 1204; DB 4;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1204; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: EMB PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/778,717
FILING DATE: 12-DEC-1996
PRIOR APPLICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 352225/1995
FILING DATE: 28-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REFERENCE/DOCKET NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 20031-0
                                                                                                                                     RESULT 7
US-08-778-717-5
Sequence 5, Application US/08778717
Patent No. 6602689
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION: TELEPHONE: 703-413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: 703-413-3000
TELEPRA: 703-413-2220
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 4557 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
                                                  USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-778-717-5
                   2184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                   유
                                                                               g
                                                    ò
```

요 ò g

```
963 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021 AGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAGCAACCACCCTGGCGCCCAATA 1080
                   243 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 302
                                                                                             TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAAGCCTGTAAAAGCGGCGGTGCAATC 422
                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                   482
                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGGGTGTGGAGCATC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             903 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          902
                                                                                                                                                   TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                        TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        603 TGGTCGCATTGGGTCATCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841 TOCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGGCATCGTTCCCACTGCGATGCTGGCTACCAACGATCAGATGGCGCTGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1083 cecahaccectrorecececerirescearicariaarecaeciescaceacaecies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 18, Application US/08487283A Patent No. 6355245 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Evans, Mark J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCAC 1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-487-283A-18/c
                                                                                                           303
                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                              301
                                                                                                                                                      361
                                                                                                                                                                                                   363
                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                         423
                                                                                                                                                                                                                                                                                                                                                                                 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1203
                                                                                                    g
                                                                                                                                                   ò
                                                                                                                                                                                     셤
                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                       8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 8
US-08-148-675A-2
IS-08-148-675A-2
| Sequence 2, Application US/08148675A
| Patent No. 550612|
| GENERAL INFORMATION:
| APPLICANT: SKerra, Arne; Schmidt, Thomas
| TITLE OF INVENTION: FUSION PEPTIDES WITH BINDING ACTIVITY FOR TITLE OF INVENTION: STREPTAVIDIN NUMBER OF SEQUENCES: 2
| CORRESPONDENCE ADDRESS: ADDRESSE: Felfe & Lynch STREET: 805 Third Avenue | STREET: New York City | STATE: New York City | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1; Length 3832;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READBLE FORM:

MEDIUM TYPE: Diskette, 5.25 inch, 360 kb sto
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/148,675A
FILING DATE: 3-NOV-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: DE 42 37 113.9
FILING DATE: 03-NOV-1992
ATTORNEY AGENT INFORMATION:
NAME: TBAIL CATION NUMBER: J4.266
REPERENCE/DOCKET NUMBER: HUBR 1041
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 688-9200
INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
TELENCHIC CHARACTERISTICS:
TELENCHIC CHARACTERISTICS:
TELENCHIC CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 1200.8;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 99.8%;
Matches 1202; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                  GCAC 3766
                                                                       GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TOPOLOGY:
US-08-148-675A-2
                          3703
                                                                     1201
                                                                                                                3763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
```

염

õ გ õ 셤 ò

ð გ ò

```
1140
                                                                                                                                                                                                                                                                                                                                                                 4151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3611
                                                                                                                                                                                                                                                                                               4211
                                                                                                                                                                                                                                                                                                                                                                                                                                    4091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3851
                                                                                                                                                            4331
                                                                                                                                                                                                                             4271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3850 GCCTGCTGGGCCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 3791
                                                                                        4391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            960
                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                          480
                                                                                                                                                                                             540
                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                             4270 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4090 CGGAACGGGAAGGCGACTGGAGTGCCCATGTCCCGTTTTCAACAAACCATGCAAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4030 ATGAGGGCATCGTTCCCACTGCGGATGCTGGCTAGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAACAAGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3730 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4450 TGGTGTCTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGTGCACAATC
                                                                                                                                                          4390 TTCTCGCGCAACGCGTCAGTGGCCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                 TGGTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3970 recececentracedadrecedecrecederrecrecedatareregrandered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                          421 TICTOGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                            TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
PCT-US96-05611A-21/C
; Sequence 21, Application PC/TUS9605611A
; GENERAL INFORMATION:
APPLICANT: Mueller, John P.
APPLICANT: Lenardo. Michael J.
APPLICANT: McFarland, Henry F.
APPLICANT: Matis, Louis A.
APPLICANT: Maller, Eileen Elliott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3610 GCAC 3607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                    4150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                        4510
                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                 셤
                                                                                                                          ò
                                                                                                                                                        셤
                                                                                                                                                                                             ò
                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4810 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4630 CGCGGGAAAAAGTGGAAGCGCCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1570 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
APPLICANT: Matis, Louis A.
APPLICANT: Mueller, Eileen Elliott
APPLICANT: Nye, Steven H.
APPLICANT: Noilins, Scott
APPLICANT: Rother, Russell P.
APPLICANT: Springhorn, Jeremy P.
APPLICANT: Springhorn, Jeremy P.
APPLICANT: Thomas, Thomas C.
APPLICANT: Thomas, Thomas C.
APPLICANT: Wilkins, James A.
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR THE TREATMENT
TITLE OF INVENTION: OF INFLAMMATORY DISEASES
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Seth A. Fidel
STRREET: 25 Science Park (Alexion)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 3; Length 5248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: Other nucleic acid
DESCRIPTION: PET Trc SO5/NI
DESCRIPTION: prokaryotic expression vector
                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.4Mb storage
COMPUTER: Macintockh Cetris 610
OPERATING SYSTEM: System 7
SOFTWARE: WordPerfect 3.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,283A
FILING DATE: June 7, 1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/236,208
FILING DATE: 02-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Seth A. Fidel.
REGISTRATION NUMBER: 38,449
REFERENCE/DOCKET NUMBER: ALX-152.1 CIP
TELECOMMUNICATION INFORMATION:
TELEFRAM: (203) 776-1790
TELEFRAM: (203) 776-1790
TELEFRAM: (203) 776-1790
TELEFRAM: (203) 772-3655
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 5248 base pairs
TYPE: NUCLER' CACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  36.3%; Score 1199.2;
99.8%; Pred. No. 0;
rative 0; Mismatches
                                                                                                                                                                            STREET: Seth A. Fidel
STREET: 25 Science Park (Alexion)
CITY: New Haven
STATE: Connecticut
COUNTRY: USA
ZIP: 06511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 99.8
Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Circular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; DESCRIPTION
US-08-487-283A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
```

us-09-765-555b-16.rni

```
4510 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 4451
                                                                                          redriedericaridaracaaccaaccecerceaaccrieraaaccecececercaarc 4391
                                                                                                                                                                                                                                                   4271
                                                                                                                                                     4091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3971
                                                     361 IGGIGGIGTCGAIGGIAGAAGCGAAGCGGCGICGAAGCCIGIAAAGCGGCGGTGCACAAIC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3970 IGCGCCCATTACCGAGTCCGGGCTGCGCGTTGCTGCGGATATCTCGGTAGTGGGATACG 3911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGCTGTGGAAGCTGCCTGCCTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                           TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1090 CGGAACGGGAAGGCGACTGGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4030 ATGAGGGGATCGTTCCCACTGCGATGCTGGCTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                                                                   cecercrecercreecreecraaararcreacreecarcaarreacreecarae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGGCATCGTTCCCACTGCGATGCTGGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                          TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3850 GCTGCTGGGGAGGCAAACCAGGGTGGACGGTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3790 AGGCCATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAACACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3730 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGTTCATTAATGCAGCTGGCACGGCACGGTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCGACTGGAAAGCGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1021 AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
US-10-263-103-35/c
; Sequence 35, Application US/10263103
; Patent No. 681723
; GENERAL INFORMATION:
; APPLICANT: AVENTIS PASTEUR
; APPLICANT: Chevalier, Michel
; APPLICANT: El Habib, Raphaelle
; APPLICANT: Krell, Tino
; APPLICANT: Sodoyer, Regis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCAC 3607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAC 1204
                                                                                            4450
                                                                                                                                                                                                                                           4330
                                                                                                                                                                                                                                                                                                                  4270
                                                                                                                               421
                                                                                                                                                                   4390
                                                                                                                                                                                                                                                                                                                                                                                               4210
                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3610
                                                                                      유
                                                                                                                             à
                                                                                                                                                           셤
                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GIGICICITATCAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA 4631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCCAGTCTGGCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4810 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGGTAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            36.3%; Score 1199.2; DB 5; Length 5248; larity 99.8%; Pred. No. 0; Conservative 0; Mismatches 3; Indels 0;
APPLICANT: Nye, Steven H.
APPLICANT: Pelfrey, Clara M.
APPLICANT: Squinto, Stephen P.
APPLICANT: Wilkins, James A.
TITLE OF INVENTION: Modified Myelin Protein Molecules
NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS:
ADDRESSE: Maurice M. Klee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: Other nucleic acid
DESCRIPTION: DET Trc SO5/NI
DESCRIPTION: prokaryotic expression vector
                                                                                                                                                                                                                            ZIP: 06430
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 0.8 Mb storage
COMPUTER: Macintosh Centris 610
OPERATING SYSTEM: System 7
SOFTWARE: Microsoft Word 6.0.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US96/05611A
FILING DATE: 02-MAY-1995
                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION:
APPLICATION NUMBER: 08/431,644
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/431,648
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/431,648
FILING DATE: May 2, 1995
ATTORNEY/AGENT INFORMATION:
NAME: Klee, Maurice M.
REGISTRATION NUMBER: 30,399
REFERENCE/DOCKET NUMBER: ALX-129
TELEFONMUNICATION INFORMATION:
TELEFONMUNICATION INFORMATION:
TELEFAX: (203) 254 1101
INFORMATION FOR SEQ 1D NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 5248 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Double
STRANDEDNESS: Double
                                                                                                                                                   STREET: 1951 Burr Street
                                                                                                                                                                       CITY: Fairfield
STATE: Connecticut
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Simil
Matches 1201; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCT-US96-05611A-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
```

유

ò 8

셤 ⋧

ઠે 용 ò 셤

```
1020
                                                                                                                                                                                                                                                                                                                        1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3483
                                                    1021 AGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                    AGGGCAATCAGCTGTTGCCCCGTCTCACTGGTGAAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                  ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAACAGGATTTTC
                                                                                                                                                                                                                           GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                 GCCTGCTGGGGGCAAACCAGGGGGGGCCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                     CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cecahaccecrerecececeserresecearrearrangeaecreseacaeserr
                                                                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Jecuse 1, Application US/08929967

j Patent No. 5891637

j Ratent No. 5891637

j GENERAL INFORMATION:

GENERAL INFORMATION:

CORRESPONDENCE ADDRESS:

J CORRESPONDENCE ADDRESS:

CORRESPONDENCE ADDRESS:

ADDRESSEE: Generacch, Inc.

STREET: 1 DNA Way

COUNTRY: USA

COUNTRY: USA

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: TBM PC compatible

COMPUTER: TBM PC compatible

COMPUTER: TBM PC compatible

COMPUTER: WithPatin (Genentech)

CURRENT APPLICATION DATA:

ATTING DATE:

FILING DATE:

COMPUTER:

FILING DATE:

FI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 5443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: B C COMPALIDIE

COMPUTER: DC COMPALIDIE

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatin (Genentech)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/929,967

FILING DATE:

CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            36.3%; Score 1199.2;
99.8%; Pred. No. 0;
live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Ginger R.
REGISTRATION NUMBER: 33,055
REFERENCE/DOCKET NUMBER: P103:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/252-3216
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 5443 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 36.3
Best Local Similarity 99.8
Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3422 GCAC 3419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-929-967-1/c
                                                                                                                                                                           3722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                           901
                                                                                                                                                                                                                           961
                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                                        3602
                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                      ò
                                                                                                                                                              g
                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3962 CGCGTCTGCGTCTGGCTGGCTGGCAAAAATATCTCACTCGCAATCAAAATTCAGCCGATAG 3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4442 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 4383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1202 TICTCGCGCAACGCGTCAGTGGGCTGATCATTAACTAICCGCTGGATGACCAGGATGCCA 4143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4142 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTTCTTGACAGA 4083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4082 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGACTGGGGCGTGGAGCATC 4023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1022 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG 3963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4622 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 4563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361 TGGTGGTGTGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4262 TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGGGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                               .;
0
                                                                                                                                                                                                                                                                                                                                                 DB 4; Length 5312;
                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                               ٠,
ش
                                                                                                                                                                                                                                                                                                                                            36.3%; Score 1199.2;
99.8%; Pred. No. 0;
ative 0; Mismatches
TITLE OF INVENTION: gp41 antigen FILE REFERENCE: 01-1692-A CURRENT APPLICATION NUMBER: US/10/263,103 CURRENT FILING DATE: 2002-10-02 NUMBER OF SEQ ID NOS: 35 SOFTWARE: patentin version 3.1 SEQ ID NO 35 LENGTH: 5312
                                                                                                                                                                                                                                            ; FEATURE:
; OTHER INFORMATION: plasmid pET-cer
US-10-263-103-35
                                                                                                                                                                                                                                                                                                                                                                                            Matches 1201; Conservative
                                                                                                                                                                                             TYPE: DNA ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

ö

ઠે g ઠે ઠે

```
4318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3778
                                                                                                                                                                                                                                                                                                                                                                                4438
                                                                                                                                                                                                                                                                                                                                                                                                                                    4378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3838
                                                                                                                                                                                                                  4618
                                                                                                                                                                                                                                                                        4558
                                                                                                                                                                                                                                                                                                                             4498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3958
                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGCCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGCCCCCCCAAATTGTCCCCCCCATTAAATCTCCCCCCATCAACTGGCTCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAAGCGGGGGGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4197 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                        CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                          AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTTGGCTAAATATCTCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                Gaps
                                                                                                                                                               ..
0
                                                                                                                                      Length 5502;
                                                                                                                                                               3; Indels
                                                                                                                                      DB 4;
                                                                                                                                   Score 1199.2;
Pred. No. 0;
0; Mismatches
CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
SEQ ID NO 785
LENGTH: 5502
                                                                                                                                   Query Match 36.3%;
Best Local Similarity 99.8%;
Matches 1201; Conservative
                                                                                 ; TYPE: DNA
; ORGANISM: Homo sapien
US-09-736-457-785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4137 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3837
                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4077
                                                                                                                                                                                                                                                                                                                                                                                                                                    4437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                4497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            상 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                           4078
                                                                                                                                                             4018
                                                                                                                                                                                                                  3958
                                                                                                                                                                                                                                                                      3898
                                                                                                                                                                                                                                                                                                                             3838
                                                                                                                                                                                                                                                                                                                                                                               3778
                                                                                                                                                                                                                                                                                                                                                                                                                                    3718
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
                                                      4138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3478
                                                                                 600
                                                                                                                                      9
                                                                                                                                                                                        720
                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                           960
                                                                                                                                                                                                                                                          3957 CGGAACGGGAAGGCGACTGGAGTGCCATGTTCCAGTTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                               3897 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGCTGGCGAA
                                                                                                                                                                                                                                                                                                                                                                    TGCGCGCCATTACCGAGTCCGGGCTGCGCTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                         AGGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                               TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCG
                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCTTGGCATAAATATCTCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACATC
                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                            CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                  ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                    TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Panger, Gary
APPLICANT: Carter, Darrick
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Retter, Marc
APPLICANT: Fan, Liqun
APPLICANT: Fan, Liqun
APPLICANT: Fan, Liqun
APPLICANT: Pan, Liqun
FILLE OF INVENTION: DARROWSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 785, Application US/09736457
Patent No. 6509448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCAC 3474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
US-09-736-457-785/c
                                                     1197
                                                                                                        4137
                                                                                                                                                            4077
                                                                                                                                                                                                                 4017
                                                                                                                                                                                                                                                                                                                                                                              3837
                                                                                                                                                                                                                                                                                                                                                                                                                                   3777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3537
                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3477
                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                             961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                 781
                           481
                                                                                                                                    601
                                                                                                                                                                                        661
                                                                                                                                                                                                                                            721
                                                                                                                                                     a
                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                     8
                                                                                                                                                                                     ò
                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
```

4138

4078

4018

3958

셤

ò

8 6 6 6 8

g à 셤 ò 셤

```
3838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3777 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 3718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGTCGAAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                              TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGGGGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3897 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATGGCGCTGGGCGCAA
                                                                  ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                  TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCTTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3957 CGGAACGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGCCATCGCTACTGCGGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3717 GCCTGCTGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCAAACCGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3657 Addicharicacristricic cercificacrida para da haracaccride ce ce central de la marca del marca de la marca del marca de la marca de la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Search completed: August 3, 2005, 02:32:27 Job time : 357.4 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAC
                                                                                                            4377
                                                                                                                                                                                                 4317
                                                                                                                                                                                                                                                                                         4257
                                                                                                                                                                                                                                                                                                                                                                           4197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                301
                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3477
                                                              ò
                                                                                                D.
                                                                                                                                   8 %
                                                                                                                                                                                                                             8 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 & 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u> 중</u> 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                            1080
                                                                                                                                                                                                                                                                                    1140
                                                                                                                                                                                                               ó,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                       AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                         GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                           CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 15
US-09-614-124B-785/C
US-09-614-124B-785/C
Sequence 785. Application US/09614124B
Parent No. 6830574
GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
APPLICANT: Lodes, Michael A.
APPLICANT: Panger, Gary
APPLICANT: Carter, Darrick
APPLICANT: Renger, Tom
APPLICANT: Carter, Marc
APPLICANT: Carter, Marc
APPLICANT: APPLICANTION: DIAGNOSIS OF LUNG CANCER
ITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REPERBUCE: 21011.47809
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
NUMBER OF SEC ID NOS: 1668
SOFTWARE: FastSEC for Windows Version 3.0
LENGTH: sca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4; Length 5502;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 1199.2;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 99.8%;
Matches 1201; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ) ORGANISM: Homo sapien
US-09-614-124B-785
                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3477 GCAC 3474
                                                                                                                                                                                     1021
                                                                                                                                                                                                                                 3657
                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4497
```

음 ò 셤

දු ද

\$ 8 8.

ò

us-09-765-555b-16.rng

OM nucleic

Run on:

Sequence:

```
Ad190419 Clostridi
Adf06053 Vector pJ
Ad173509 Plasmid p
Adh73509 Plasmid p
Adh73601 Plasmid p
Adh73601 Plasmid p
Adh73601 Plasmid p
Adh73601 Plasmid p
Adh73209 B. coli t
Aav32977 Tn7 donor
Aad45059 Transposo
Adg46817 Donor pla
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 BNA seque
Ad18668 Plasmid p
Ad773089 MBP and z
Ad63522 MBP-human
Ac690491 Vector pl
Ad033532 Vector pG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   product= "ZFPm3 protein"
note= "CDS does not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /partial 2740. .2790 /*tage b //partial 2740. .2790 //partial b //
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         *tag= c
'bound_moiety= "F1-f1 primer"
1824. _2889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bound moiety= "F3-b1 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 *tag= d
bound moiety= "F2-b primer"
2867. .2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           *tag= e
'bound_moiety= "F2-f primer"
1916. .2973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Partial sequence of pMal-m3 and ZFPm3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= h
/bound_moiety= "F4-f2
3022. .3102
                                                                          ADH73599
ADH73598
ADH73600
ADH73601
ADA22939
ABA22939
ADA46817
ADL7229
ADL7229
ADL7229
ADL7229
ADL7229
ADL7229
ADL7229
ADL7329
ADL7329
ADC7666051
ADC766051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= g
/bound moiety= "
2992. -3042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAD11590 standard; DNA; 3300
                                                                                                                                                                                                                            2719. .3270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
/product=
       *tag=
       Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     primer_bind
                                                     1472.4
1462.4
1462.4
1462.4
14118.2
14117.6
11417.6
1362
                                                                                                                                                                                                                                                                                                                        1362
1238.4
1238.4
1237.2
1237.2
1237.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAD11590;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAD11590
          Aad11590 Partial s
Aad11588 Partial s
Aad11589 Partial s
Aad11591 Partial s
Aah25681 Nucleotid
Ab153238 Nucleotid
Ad023608 DNA encod
Ad023613 DNA encod
Ad02359 DNA encod
Ad02359 DNA encod
Ad02359 DNA encod
Ad02359 DNA encod
Ad02364 DNA encod
Ad02364 DNA encod
Ad02359 DNA encod
                                                                                                                                                                      July 31, 2005, 14:24:04; Search time 1094.6 Seconds (without alignments) 17846.836 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                       US-09-765-555B-16
3300
1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
                              GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Potal number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                4390206 seqs, 2959870667 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAD11590
AAD11589
AAD11589
AAD11589
AAD11581
AAD2358
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
                                                                                                                                nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                  Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         genesequ1990s:*
genesequ2000s:*
genesequ2001as:*
genesequ2002as:*
genesequ2002as:*
genesequ2003as:*
genesequ2003as:*
genesequ2003as:*
genesequ2003as:*
genesequ2003as:*
genesequ2003as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N_Geneseq_16Dec04:*
1: geneseqn1980s:*
2: geneseqn1990s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12
6
12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33300
33300
33300
7259
7352
73322
73370
7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                              IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97.5.9
97.5.2
97.2.2
97.2.2
97.2.3
98.2.0
98.2.0
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98.1.5
98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3216.8
33207.2
3207.2
3207.2
3207.2
3207.2
3207.2
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3209.6
3
                                                                                                                                                                                                                                                                                                    Perfect score:
                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
```

Minimum DB & Maximum DB &

Database

Result No.

Searched:

~

*tag= i /bound moiety= "F4-f1 primer" 3076. 3141

| moiety= "F5-b primer" | 3192

/*tag= /bound_n 3119. .3

primer"

"F6-b2

/bound_moiety= "
3205. .3273
/*tag= m
/bound_moiety= "

"F6-b1 primer'

/*tag= k /bound moiety= "F5-f primer" 3168. 3225 *tag= 1

```
) SCRIPPS RES INST.
) SYNGENTA AGRIC DISCOVERY INC
                                                                         19-JAN-2001; 2001WO-US001817.
                                                                                21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                        Barbas CF, Stege JT,
                                                                                                                2001-465325/50
                                                                                                                    P-PSDB; AAE06003
                                                          WO200152620-A2
                              primer_bind
       primer_bind
                   primer_bind
                                          primer_bind
                                                                 26-JUL-2001
                                                                                            (SCRI
(SYGN
```

Dalmia B;

Guan X,

The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target mucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence. Where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and plants. The plant expression are useful in the plant and disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the Partial sequence of pWal-m3 and ZFPM3 DNA New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the target gene. Example 4; Page 143-145; 156pp; English.

Sequence 3300 BP; 845 A; 878 C; 877 G; 700 T; 0 U; 0 Other;

	,0	09	09	120	120	180	180	240	
Length 3300;	Indels 0, Gaps	CATGATAGCGCCCGGAAGAGA	CATGATAGCGCCCGGAAGAGA	ACGATGTCGCAGAGTATGCCG	ACGATGTCGCAGAGTATGCCG	ccaeccarcerrereceasas	ccagccacgtttctgcgaaaa	ACATTCCCAACCGCGTGGCAC	
100.0%; Score 3300; DB 4; Length 3300; 100.0%; Pred. No. 0:	Matches 3300; Conservative 0; Mismatches 0;	1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA	1 CCGACACCATCGAAATGGTGCAAAACCTTTCGCGGTATGGCATGGTAGCGCCCGGAAGAGA	61 GTCAATTCAGGGTGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGGTATGCCG 120	61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120	CAGACCGTTTCCCGCGTGGTGAACCAGG	121 GIGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCA	181 CGCGGGAAAAATGGAGGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	
Query Match Best Local Similarity	Matches 3300; Conserve	y 1 CCGACACCATC	b 1 CCGACACCATC	y 61 GTCAATTCAGC	b 61 GTCAATTCAGG	y 121 GTGTCTCTTAI	b 121 GTGTCTCTTAT	9 181 CGCGGGAAAA	

ŝ g 8 8

888

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1260
                                          360
                                                                                         1320
181 CGCGGGAAAAAGTGGAAGCGGCGGAGGCGAACTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                               420
                                                                                                                                                      420
                                                                                                                                                                                480
                                                                                                                                                                                                       480
                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                            99
                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                960
                                                                          ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                          TGGTGGTGGTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                           TIGCTGIGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                     TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                              CGCGTCTGCGTCTGGCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGGTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                TGGTCGCATTAGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arcadecarcerrecearecreerrecracearecarcaareareacecacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCTGCTGGGGCAAACCAGCGTGGAACCGCTTGCTGCAACTCTCTCAGGGCCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961 GCCTGCTGGGGGCAAACCAGCGTGGACGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCAAACCGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCGACTGGAAAGCGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                 241
                                                                          301
                                                                                                 301
                                                                                                                          361
                                                                                                                                                   361
                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                      109
                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                            421
                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1261
                     ò
                                              엄
                                                                       ò
                                                                                           g
                                                                                                                       ò
                                                                                                                                              ద
                                                                                                                                                                  ò
                                                                                                                                                                                           g
                                                                                                                                                                                                                         8 8 8
                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                             8 8
                                                                                                                                                                                                                                                                                                                                                                      $ B $
                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
```

ო

m

Aug

Wed

regulator; AAGTCTTTCAGCCCAGAGCTCCAGCGCGCCACCAACGTACTCACACGGGGGAGAAG CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCAC CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCAC TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC

ö

Gaps

ö

120 120 180 180 240 240 300 300 360 360 420 420 480 480 540 540 900

9

009 099 99 720 720 780

ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840

781

à

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target mucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target cells within a target gene and allowing the ZFP binding to the target cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-Ap3 (APETALA3) and ZFPAp3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGTCTCTTATCAGACCGTTTCCCGGCGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGAAAAAGTGGAGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TrigoridideaaGcrecorgoacraarerrocegeerratrocreaterorocrecaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTCGCATTAGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCTGCGTTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cecenciecerciecirecirecentaaniarcicacirecanicaanircaeceanae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                   DB 4; Length 3300;
                                                                                                                                                                                                                                 Sequence 3300 BP; 853 A; 872 C; 876 G; 699 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGT
                                                                                                                                                                                                                                                                                                   52; Indels
                                                                                                                                                                                                                                                                   Score 3216.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                 97.5%;
                                                                                                                                                                                                                                                                                 Best Local Similarity 98.4 Matches 3248; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
     g
                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the
                                                                                        product = "ZFPAp3 protein"
[trans] except= (pos:3124. .3126, aa:Ser)
[trans] except= (pos:3127. .3129, aa:Ser)
[trans] except= (pos:3136. .3138, aa:Val)
[trans] except= (pos:3136. .3138, aa:Val)
                                                                                                                                                                       /*tag= m
/bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= 1
/bound_moiety= "F6-b1 primer"
3205. .3273
                                                                                                                                                                                                                                                                                                                                                                                                                       "F3-b1 primer'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "F3-b2 primer'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bound_moiety= "F4-f2 primer"
022. 3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bound_moiety= "F4-f1 primer"
076. .3141
                                                                                                                                                                                                                                                                                                                                                       *tag= e
bound_moiety= "F2-f primer"
916. .2973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /bound_moiety= "F5-b primer"
3119. .3192
*tag= k
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'bound_moiety= "F5-f primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dalmia B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 4; Page 148-149; 156pp; English.
                                                                                                                                                                                                                                                                                                       *tag= d
bound_moiety= "F2-b
:867. .2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC
                                              location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag= g
/bound_moiety= "
                                                                                                                                                                                                                                                                                                                                                                                                                         moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Guan X,
                                                                                                                                                                                                                                                                                                                                                                                          Jib.
/*tag= 1
/bound_moiety/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19-JAN-2001, 2001WO-US001817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0177468P
2000US-00620897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-465325/50.
P-PSDB; AAE06005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200152620-A2
             Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-JAN-2000;
21-JUL-2000;
                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                   primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Barbas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             target
                                          Key
```

GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGGCAAAAACCTGGGAA 192	GAGATCCCGGCCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCCTGATGTTCAAC 	CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCCTTCAG 	2041 TATGAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGGGCGAAAGCG 2100 			GCATGSTCCAACATGACACAGCAAAGTGAATTATGSTGTAACGSTATGCGCCACCTTC [AAGGGTCAACCATCCAAACCGTTCGTTGGTGGGCTGCTGAGCGCAGGTATTAACGCCGCCAGT	2341 CCGAACAAGGCTGGCAAAGAGTTCCTCGAAAACTATCTGCTGACGTCGATGAGGTCTG 2400 2341 CCGAACAAGAGGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	2461 TTGGCGAAAGATCCACGTATTGCCGCCACGATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 			2641 AACAACAACAATAACAATAACAACAACTGGGATGGAGGAAGGA	2701 GGATCCTCTCTGTGGCCCAGGCGGCCCTCGAGCCCGGGAGAAGCCCTATGCTTGT 2760 2701 GGATCCTCTCTGTGGCCCAGGCGCCCTCGAGCCCCGGGGAGAAGCCCTATGCTTGT 2760	2761 CCGGAATGTGGTAAGTCCTTCAGCGATCCTGGCCACCAGGTTCGCCACCACCAC 2820 2820 2161	2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGGGGCTCC 2880	2881 CTGGTGCGCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940	2941 AAGTCTTTCAGCCAGAGCTCCAGCCTGGTGCGCCACCAACGTACTCACACCGGGGGGAAAG 3000
QQ -	ò da	ბ <u>მ</u>	& g	8 6	S da	ò a	λ ₀ 8	<u>ራ</u> 8	λο q _α	상 셤	상 옵	<u>ኞ</u> 4	& B	<i>장</i> 옵	& A	& B	े व	· 유
	841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900	901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC 960 	961	1021 AGGGCAATCAGCTGTTGCCGGTCTCACTGGTGAAAAAAAA	1081	1141 CCCGACTGGAAAGCGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCATTAG 	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCC 	1261 TCAGGCAGCCATCGGAAGCTGTGGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 13	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCCACATCATAACCGTT 138	1381 CTGGCAATATTCTGAAATGAGCTGTTGACAATTAATCATGGCCTGTATAATGTGTGGA 144 1381 CTGGCAATATTCTGAAATGAGCTGTTGACAATTAATCATGGCTGTATAATGTGTGGA 144 1381 CTGGCAATATATCTGAAATGAGCTGTTTGAAATTAATCATCGGCTGTATAAATGTGTGGA 144	1441 ATTGTGAGGGATAACAATTTCAACAGGAAACAGCCGGTTAGGTGTTTTCAGA 150 1441 ATTGTGAGGGATAACAATTTCAACAGGAAACAGCCGGTTTAGGTGTTTTCACA 150	1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG	1561 ATTAACGGGGATAAAGGCTATAACGGTCTCGCTGAAGTAGGAAATTCGAGAAAGAT 1	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1	1681 GCGCCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGCTTTC 1681 GCGCCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACACGCTTTTC 1681 GCGCCAACTGGCCATGGCCTTGATTATCTTCTGGGCAAACAACACGCTTTTC 1681 GCGCCAACAGCCAATATCTTCTGGCCAACACACACACACA	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 180	1941 GCICMATCIGGCCIGIIGGCIGMATTACCCCGGGCGATTACCCGGTACCTTACCCGGTACGTTACCAGGATGCCTATACCAGGATGCCTATACCAGCATGCTTACCAGGATGCCTGTTACAGCAGATGCCTGTTACAGCAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGTTACAGATGCTGCTACAGATGCTGCTACAGATGCTGCTACAGATGCTGCTACAGATGCAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATGCTACAGATAGAT	1861
q	8 6	& g	8 8	8 8	ት 8	දි පි	8 8	රු පි	8 6	8 8 8	8 8	8 8	\(\frac{2}{3} \)	े र	8 & 8	िके	8 6 8	8 8

```
1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Barbas CF, Stege JT, Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-JAN-2001; 2001WO-US001817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match

Best Local Similarity 98.2%;
Matches 3242; Conservative (
                                                                                                                                                                                            .3021
                                                                                                                                                                                                                                                                                   992. 3042
                                                                                                                                                                                                                         /*tag=
/bound_
                                                                                                                                                                                                                                                                                                                   *tag=
                                                                                                                                                                                                                                                                                                                                                                                                              *tag≃
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-465325/50.
P-PSDB; AAE06000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200152620-A2
   primer_bind
                                                                                          primer_bind
                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                                                                primer bind
                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-JUL-2001
ð
                   CCCTAIGCTIGICGGAAIGIGGIAAGICCTICAGCCAGAGCAGCICCCIGGIGCGCCAC 3060
                                                                          3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACAC 3060
                                                                                                                                        CAGCGTACCCACACGGGGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGT 3120
                                                                                                                                                                                                                                                                3121 GACTGCCGCGACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180
                                                                                                                                                                                                                                                                                                             CAGCGCGCCCACCTGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAATGT 3180
                                                                                                                                                                                                                                                                                                                                                                                           CCAGAATGTGGCAAGTCTTTCTCCCAATCCAGCCATCTCGTCCGGCACCAAGGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                        3181 CCAGAATGTGGCCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3300
                                                                                                                                                                                                     CAGCGTACCCACACGGTGAAAACCGTATAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTCCGGACTACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aa:Ser)
aa:Arg)
aa:Ser)
aa:Asp)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aa:Gly)
aa:Arg)
aa:Ala)
aa:His)
aa:Glu)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aa:Ala)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2793,
2874,
2877,
2880,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .2955,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .2961,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /bound_moiety= "F1-f1 primer"
2824. .2889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  *tag= b
bound moiety= "F1-f2 primer"
2770. 2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /*tag= d
/bound_moiety= "F2-b primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pos:3220.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (pos:2791.
(pos:2875.
(pos:2876.
(pos:2878.
(pos:2884.
(pos:2989.
(pos:2959.
(pos:3121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (pos:3139.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Partial sequence of pMal-ml and ZFPml DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        transl_except= (p. transl_except
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /transl_except= (/transl_except= (/transl_except= (/transl_except= /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /transl_except=
/transl_except=
/transl_except=
/transl_except=
/transl_except=
/transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /transl_except= (/transl_except= (/trans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'product= "ZFPm1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            transl_except=
transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAD11588 standard; DNA; 3300 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               740. .2790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   primer_bind
                                                                                                                                           3061
                                                                                                                                                                                                                                                                                                                                                                                        3181
                                                                                                                                                                                                        3061
                   3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAD11588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 3
                                                                                                                                                                                  쉱
                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                           원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NO NEW WITH THE PROPERTY OF TH
                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                          ద
```

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ETP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant cells is modulating or regulating gene expression of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m1 and ZFPm1 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New zinc finger proteins, useful for modulating or regulating gene
expression and metabolic pathways in plants, e.g. for treating in the
plant cells a disorder that is associated with abnormal expression of the
target gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 4; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    58; Indels
                                                                                                                                                                                                                                                                                                                                     bound moiety= "F4-f2 primer" 022. 3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                 bound moiety= "F4-f1 primer"
076. 3141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bound moiety= "F6-b1 primer"
205. .3273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= m
/bound_moiety= "F6-b2 primer"
                                                                                                                                  bound_moiety= "F3-b1 primer'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bound moiety= "F5-b primer"
119. 3192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bound_moiety= "F5-f primer"
168. .3225
'*tag≖ e
'bound_moiety≃ "F2-f primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 3207.2; I
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dalmia B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 4; Page 138-139; 156pp; English.
                                                                                                                                                                                                                                          moiety= "F3-b2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
```

ö

Wed Aug

us-09-765-555b-16.rng

셤

ò

8 6

8 &

දු දු

8 6 8 6

8 8

8 6 6 6

ठ हे ठ

8 6 8

8 8

셤

8 8 8

ò

8 6 8

중 음 .

```
metabolic pathway regulator;
ds.
                                                                                                                                                                                                                                                                                                                                                               'product= "ZFPm2 protein"
note= "CDS does not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /ttg= c //bound moiety= "F1-f1 primer" 2824. 2889 /*tag= d //bound moiety= "F2-b primer" 2867. 2940 /*tag= e //bound_moiety= "F2-f primer" 2916. 2973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= f //bound_moiety= "F3-b1 primer" 2953. 3021 /*tag= f //bound_moiety= "F3-b2 primer" 2992. 3042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= h //*tag= h //*tag= h //*tag= n //*tag= i //*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     *trag= 1
|bound_moiety= "F6-b1 primer"
|205. .3273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 '*tag= m
'bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                             '*tag= b
'bound moiety= "F1-f2 primer"
!770. _2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  *tag= j
bound moiety= "F5-b primer"
1119. 3192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                *tag= k
bound_moiety= "F5-f primer"
                                                                                                                                                                                                       Zinc finger protein; ZFP; gene expression; modulation; plant technology; agriculture;
                                                                                                                                                                  Partial sequence of pMal-m2 and ZFPm2 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ë,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dalmia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC
                                                                                                                                                                                                                                                                                                       Location/Qualifiers
2719. .3270
/*tag= a
                                                     BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Stege JT, Guan X,
                                                 AAD11589 standard; DNA; 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .9-JAN-2001; 2001WO-US001817.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                        partial
740. .2790
                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   168.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200152620-A2
                                                                                                                             24-SEP-2001
                                                                                                                                                                                                                                                                Inidentified
                                                                                                                                                                                                                                                                                                                                                                                                                          primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            primer_bind
                                                                                        AAD11589;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Barbas
          RESULT 4
                              AAD11589
                                                                   2280
                                                                                    2340
                                                                                                                         2340
                                                                                                                                                       2460
                                                                                                                                                                                                                                                                                                                                                                                                    2580
                                                                                                                                                                                                                                                                                                                                                                                                                                           2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2640
                                                                                                                                                                                                                                                              2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                                                 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                        2461 TIGGCGAAAGATCCACGTATTGCCGCCACATGGAAAAGGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGGAATG1GGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCGAC 2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2941 AAGTCTTTCAGCCAGAGCTCCAGCCTGGTGCGCCACCAACGTACTCACCGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2941 AAGICTITICTCTCGGTCTGACAATCTCGTCGGCACCAACGTACTCACACGGGGGGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGCGTACCCACACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGAATGTGGCAAGTCTTTCTCCCAATCCAGCCATCTCGTCCGGCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCATGGTCCAACATCGACAGCAAGAGAATTATGGTGTAACGGTACTGCCGACCTTC
                            GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                          AAGGGTCAACCATCCAAACCGTTCGTTGGTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                        GAAGCGGTTAATAAAGACAAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                             CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGCGGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCCGGGGAGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2761 CCGGAATGTGGTAAGTCCTTCAGCGATCCTGGCCACCTGGTTCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2821 ACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGCGGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCGTACCCACACGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTGCCGCGACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                       2221
                                                                              2281
                                                                                                                  2281
                                                                                                                                                                                                                                     2401
                                                                                                                                                                                                                                                                                                                                                                                             2521
  2221
                                                                                                                                                                                                                                                                                                                 2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3181
```

σ

The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ETP) which is capable of specifically binding to a target uncleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target mucleotide sequence, where the expression of the target gene in the plant cells is modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful partial technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m2 and ZFPm2 DNA the New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of target gene. 4; Page 140-142; 156pp; English WPI; 2001-465325/50. P-PSDB; AAE06002. Example

. 0 DB 4; Length 3300; Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other; 58; Indels Score 3207.2; Pred. No. 0; 0; Mismatches Query Match 97.2%; Best Local Similarity 98.2%; Matches 3242; Conservative C

8 8 8

셤

ઠે

සු දු

셤

8 6 8 6 8

120 120 180 180 240 240 300 300 360 360 420 420 480 480 540 540 600 900 999 9 9 9 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GTCAATTCAGGGTGAGTGAATGTGAAACCAGTAACGTTATACGATGTCGCGAGAGTATGCCG AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA TIGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTTCTGACCAGA CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACGTCCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC Acececcarcanarrercececcarrantercececcarcancaecrecaece TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG Gaps н 181 241 361 541 601 601 -61 131 181 241 301 301 361 421 421 481 481 541

8686

g

ઠે

ઠે

1681

1380 1440 1080 1200 1200 1260 1260 1320 1320 1380 1500 1500 GCGGCAACTGGCCGTTGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740 1020 1020 1080 900 720 780 780 840 900 960 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCATTAG GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG GCACTTCACCAACAAGGACCATAGAAAACTGAAGAAGGTAAACTGGTAATCTGG GCCTGCTGGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA TCTGGCG TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGCACATCATAAACGTT CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGT ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT GCGGCAACTGGCGGTTGACTTATCTTCTGGGCACGACCGCTTTGGTGGCTAC CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGAA TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGGATATCTCGGTAGTGGGATACG ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC acgaracceaagacagercarerrararecegecerraaccaceareaacagearrrre CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA **ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT** GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCT 1081 1261 1321 1321 1441 1441 1501 1561 1561 1621 901 1021 1021 1081 1141 1201 1201 1261 1381 1381 1501 1621 199 721 781 781 841 841 901 961 961 1141 721 1681 à 8 g g g a 6 6 6 8 & ò 요 ò 원 ò g ò g ò В 8 셤 ò g 8 g ò ò q ò 8 6 ò

us-09-765-555b-16.rng

2821 2881 2881 2941 2941 3001	QY 3061 CAGCGTACCCACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGT 3120 Db 3061 CAGCGTACCCACGGGTGAAAAACCGTATAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120 CAGCGTACCACCAGCAACACCGTATAATGCCCAAATCTTTTAGC 3120 QY 3121 GACTGCCGGACCTGCCCATCCACCACTCATACTGGCGAAAATGT 3180 Db 3121 CAGGCCGGCCTGGCCATCATACTGGCGAGAAACCATACAAATGT 3180 QY 3181 CAGGACCTGGCCATCAAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180 QY 3181 CCAGAATGTGGCCAACCTGCCATCACCGCCATCTCCGGCACCAACGTACAAATGT 3240	3241	RESULT 5 AAD11591 ID AAD11591 standard; DNA; 3300 BP. XX AC AAD11591; XX XX DT 24-SEP-2001 (first entry)	XX XX E Partial sequence of pMal-m4 and ZFPm4 DNA. XX XW Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; XX Onidentified. XX XX XX XX XX XX XX	Key CDS Drimer bind	/*tag= b //wind molety= "F1-f2 primer_bind 27702850 /*tag= c //wind molety= "F1-f1 primer_bind 28242889 /*tag= d /*tag= d	primer_bind 28672940 **4672940 **4632940 **tag= pointer_bind 29162973 **tag= f /bound_moiety= primer_bind 29533021 /*tag= g //tag= f //tag= f //tag= g //	<pre>I // // // // // // // // // // // // //</pre>
	TCAAG 2040 TCAAG 2040 AAGCG 2100	GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC 2160 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220	2221 GCATGGTCCAACATCGACAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 X 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGGGCAGGTATTAACGCCGCCAGT 2340 X 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGTGTGTGTGTGT	2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAACTATCTGCTGACTGA	2520 2520 2580 2580	2640 2640 2700	GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAGAAGCCTATGTGGATCCTCTCTTGTGTGTG	2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGCGGCTCC 2880

 5
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           960
                                                                                      300
                                                                                                                       300
                                                                                                                                                        360
                                                                                                                                                                                      360
                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cecercrecercrescrescrescaraaararcreacrescaarcaaarreascesaras
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGGGAAGGCGACTGGAGTGCCCATGTTTCAACAAACCATGCAAAAGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGAGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCGCGCCATTACCGAGTCCGGGCTGCGCTTGCTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCAAACCGCCTCTCCCCGCGCTTGGCCCAATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ccceacregaaagcegecagreaccecaacecaarraarereagrraecreacreatrae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                      CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                    ceceseaaaaacresaacesecearescesaecreaarracarreccaacescere
                                                                                      AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                       AACAACTGGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                        ACGCGCCGTCGCAAATTGTCGCGCCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                        ACGCCCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                         TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                             TGGTGTCTCGATGCTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGTGCACAATC
                                                                                                                                                                                                                                                                                          TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                             TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTGCTTGGGGCAAACCAGCGTGGATCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cecaaacceccrerececececerrecearrearrarecaerececaecaecra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1201
                                                      181
                                                                                      241
                                                                                                                       241
                                                                                                                                                        301
                                                                                                                                                                                        301
                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                             8
                                                                                                            qq
                                                                                                                                                       à
                                                                                                                                                                             ద
                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc fanger protein (EFP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target mucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m4 and ZFPPM4 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 3300 BP; 849 A; 865 C; 880 G; 706 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                58; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 4;
                                                                                                                                                                                                                        "F6-bl primer"
                                                                                                                                                                                                                                                                           /bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 3207.2; I Pred. No. 0; 0; Mismatches
                      primer
                                                                        primer
                                                                                                                       "F5-b primer"
                                                                                                                                                                        "F5-f primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 4; Page 145-147; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dalmia
                   "F4-£2
                                                                      "F4-f1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
/*tag= n
/bound_moiety= "
3022. .3102
                                                                                                                                                     /*tag= k
/bound_moiety= "1
3168. 3225
/*tag= 1
/bound_moiety= "1
                                                                                                    /*tag= j
/bound_moiety= "
3119. -3192
                                                                        moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Guan X,
                                                        *tes/
/bound_moi-
.74. .3141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97.2%;
98.2%;
                                                                                                                                                                                                                                                                                                                                                                                                              21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                             19-JAN-2001; 2001WO-US001817
                                                                                                                                                                                                                                         3205. 73273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similaricy 50.2
Matches 3242; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2001-465325/50.
P-PSDB; AAE06004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                            WO200152620-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      target gene.
                                   primer_bind
                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                         primer bind
                                                                                                                                                                                                                                                                                                                                            26-JUL-2001
                                                                                      primer_bind
                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Barbas CF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
```

중 A

8

ઠ

g

ઠે

2341 2401 2401 2461 2461 2551	2521 CGGAACATCCGCAGATGTCGCTTTCTGGTATGTCGTTTTTTTT	2701 GGATCCTCTCTCTGTGGCCCGGGCCCTCGGGCGGGGGGGAAGATTTCAGAATTC 2701 GGATCCTCTTCTTGTGGCCCAGGCGCCCTCGAGCCCGGGGAAGACCTTGTTTCAGAATTC 2701 GGATCCTCTTCTTGTGGCCCAGGCGCCCTCGAGCCCGGGGAAGACCTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTT		2881 CTGGTGCGCCATCAACGCACTCATACTGCGAGAAGCCATACAAATGTCCAGAATGTGGGC 2	3001	3061 CAGCGTACCCACACGGGGGAAAACCGTATAAATGCCCAGAGTGGGGCAAATCTTTTAGT 3120 3061 CAGCGTACCCACACGGGGGAAAACCGTATAAATGCCCAGAGTGGGGGCAAATCTTTTTAGT 3120 3121 GACGGCGCGACACGGGGGGAAAACCGTATAAATGCCCAGGGGGGGG	3181 3181 3241		AAH25681; 05-SEP-2001 (first entry) Nucleotide sequence of human Cdc25C phosphatase DNA.
8 6 8 6 8	9 6 6	6 6 6 6	6666	S G S S	90 o	8 6 8 6	8 B 8	Db RESULY AAH250 ID	DK DX AX
					•			T-17-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	
	ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCGTTTTGAGGA 1500 GCACTTCACCAACAAGACCAGGAAACAGCCAGTCGGTTTAGGTGTTTTCACGA 1500 GCACTTCACCAACAAGAACCATAGAAAACTGAAGAAGGTAAACTGGTATTTCACGA 1500 GCACTTCACCAACAAGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560 GCACTTCACCAACAAGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560	1561 ATTAACGGCGATAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGT 1620 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT 1620 1561 ATTAACGGCGATAAAGCCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680	GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACGCGCTTTGGTGGCGCTAC 1740	CGCTGTT 1 CGCTGTT 1 CGCTGTT 1 CTGGGAA 1	GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACTTGGGAA 1920 GAGATCCCGGCGCTGGATAAAGAACTGAAAGGGAAAGGTAAGAGGCGCGCTGATGTTCAAC 1980	CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040 TATGAAAACGGCAATTACACCTGGCGGCTGGTTATGCTGCTGGCGCGAAAGCG 2040		TCATCGAGAAGCTGCCTTTAATAAGGCGAAACGATGACCATCACCGCCGGG 2220 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACGCGATGACCATCAACGGCCCGTGG 2220 GCATGGTCCAACATGGCCTTTAATAAAGGCGAAACAGGCGATGACGATCAACGCCCGTGG 2220 GCATGGTCCAACATGGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGGGCAGGTATTAACGCCGCCAGT 2340

us-09-765-555b-16

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1560
                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                960
                                                                540
                                                                                                600
                                                                                                                                 900
                                                                                                                                                                 9
                                                                                                                                                                                                999
                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTGCTGGGGCAAACCAGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCGAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCACTTCACCAACAAGGACCATAGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                             CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                               TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ceccaetregaaageegecaetreaececaacecaarraarereaetragereaetrage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTCGCTCAAGGGCGCACTCCCGTTCTGGATAATGTTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                CACCCATCAACAGTATTTTTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                       CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACGTTC
                                                                                                                                                               CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCTGCTGCGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cecaaaccectriceceeeeerreecearrearrangeaeereecacacacacri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1501
                                                                                                                                 541
                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1381
                                   481
                                                                481
                                                                                                541
                                                                                                                                                                   601
                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 6
                                ò
                                                                                                ⋧
                                                                                                                                                                 ò
                                                                                                                                                                                       g
                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence encodes human Cdc25C phosphatase, and was expressed in Escherichia coli. It is used to make fusion proteins with Escherichia coli maltose binding protein (MBP). The specification describes fusion proteins of MBP and one of Cdc 25B1, 25B2, 25B3 and 25C. Cdc phosphatases are involved in activation of cyclin-dependent kinases (CDK) that control cell division. The fusion proteins are used to identify modulators of the specified human Cdc phosphatases, potentially useful for regulation of cell division. They are also for studying physiological or physiopathological activities of Cdc phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                              New fusion protein of maltose-binding protein and Cdc phosphatase, useful for identifying phosphatase modulators for regulating the cell cycle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
iltose binding protein; MBP; Cdc25C phosphatase;
Cdc25B3; cyclin-dependent kinase; CDK; cell division;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGCCCCCCCCCAAATTGTCGCGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGCCCCCCCCCAAATTGTCCCCGCCATTAAATCTCGCCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGTCTCTTATCAGACCGTTTCCCGCGTGGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGCCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           regregrerearegradaaceaageeecerceaageereraaageegeegerecaare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 4; Length 8101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 2705.8; Pred. No. 0; O; Mismatches
                                                                                                                                                                                                                                                               (SCRC ) SCRAS SOC CONSEILS RECH & APPL SCI
                                                                                                                                                                                                                                                                                                 Prevost
                                                                                                                                                                                                                                                                                                 Ducommun B,
                                                                                                                                                                                                                                                                                                                                                                                                              Claim 7; Page 9-13; 56pp; French
                                                                                                                                                                                            14-DEC-1999; 99FR-00015722.
30-MAY-2000; 2000FR-00006883.
21-SEP-2000; 2000FR-00012008.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 99.9%;
Matches 2707; Conservative 0
                                                                                                                                                               2000WO-FR003496
   maltose
                                                                                                                                                                                                                                                                                               Goubin-Gramatica F,
                                                                                                                                                                                                                                                                                                                               WPI; 2001-398152/42.
   protein; me
; Cdc25B2;
                                                                sapiens.
                                                                                                                                                              13-DEC-2000;
                                                                                                                               21-JUN-2001
Fusion pro
Cdc25B1; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                Ношо
```

g

8 &

8 8

음 장

6 6 6 6 6 6

```
Location/Qualifiers
                                                                                                                                                                                                                                                                                                    = "encodes r
.4134
                                                                                                                     BP.
                                                                                                                                                                                                                                                                                                                                                                                                                           (SCRC ) SCRAS SOC CONSEILS RECH
                                                                                                                     8101
                                                                                                                                                                                                                                                                             /*tag= h
                                                                                                                                                                                                                                                                                                                                                                                      28-JUL-2000; 2000FR-00009900.
                                                                                                                                                                                                                                                                                                                                                                                                         28-JUL-2000; 2000FR-00009900
                                                                                                                                                         (first entry)
                                                                                                                     DNA;
                                                                                                                                                                                                                                                                                                    /note=
2713.
                                                                                                                                                                                                                                                                                                                       /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                               Brezak PMC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2002-166066/22.
                                                            GGATCCTCT
                                                                                                                    ABL53238 standard;
                                                    GGATCCTCT
                                                                                                                                                                                                                           vitamin K; ss
                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                        17-JUN-2002
                                                                                                                                                                                                                                                                                                                                                 FR2812198-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ducommun B;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Prevost G,
                                                                                                                                                                                                                                             Synthetic
                                                   2701
                                                                     2701
                                                                                                                                       ABL53238;
                                                                                                 RESULT 7
ABL53238
                                                                                                                                                                                                                                                                                                             CDS
                                                                                                                   셤
                                                  8
                                                                셤
                                                                             1680
                                                                                                                                                                           1860
                                                                                                                                                                                              1860
GCACTTCACCAACAAGGACCATAGATTATGAAAATCGAAGAAGGTAAAACTGGTAAATCTGG 1560
                                                                                            GCGGCAACTGGCGCTTGACATTATCTTCTGGGCACACGCCTTTTGGTGGCTAC 1740
                                                                                                        GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800
                                                                                                                                               1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                         2040
                                                                                                                                                                                                                                                                                                                              2100
                                                                                                                                                                                                                                                                                                                                                2100
                                                                                                                                                                                                            GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCCGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                   GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                            2040
                                                                                                                                                                                                                                                                                                                                                                   2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                                                                                      2160
                                                                                                                                                                                                                                                                                                                                                                                                        2220
                                                                                                                                                                                                                                                                                                                                                                                                                           2220
                                                                                                                                                                                                                                                                                                                                                                                                                                             2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                          Accesartraaagtcaccettgagcarccegaraactegaagagaartcccacaggtr
                             1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                   CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                   1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                       GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1461 TIGGCGAAAGAICCACGIATIGCCGCCACCAIGGAAAACGCCCAGAAAGGIGAAAICAIG
                                                                                                                                                                        CCGTTTACCTGGGATGCCGTACGATGGCAAGCTGATTGCTTACCGATCGCTGTT
                                                                                                                                                                                                                                                                                      CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                           TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                GGTCTGACCTTCCTGGTTGACCTGATTAAAAACACACATGAATGCAGACACGGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                      TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                   1161 TCCATCGCAGAAGCTGCCTTTAATAAAGGGGAAAACAGGGGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                         GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2521 CCGAACAICCCGCAGAIGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2281 AAGGGTCAACCAICCAAACCGTICGTIGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cceaacarccecacarcrecerricresiarecerreceraceserecereacec
                                     1561
                                                                          1621
                                                                                             1681
                                                                                                                                  1741
                                                                                                                                                                                                                                                1921
                                                                                                                                                                                                                                                                                                                           2041
 1501
                                                                                                                                                                        1801
                                                                                                                                                                                                             1861
                                                                                                                                                                                                                                                                                                                                                                                  2101
                                                                                                                                                                                                                                                                                                                                                                                                     2161
                    1561
                                                                                                                                                                                                                                                                    1921
                                                                                                                                                                                                                                                                                       1981
                                                                                                                                                                                                                                                                                                        1981
                                                                                                                                                                                                                                                                                                                                                                 2101
                                                                                                                                                                                                                                                                                                                                                                                                                                          2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                8.6
                                                                     ద
                                                                                                          g
                                                                                                                                                 ద
                                                                                                                                                                                                                         a
                                                 ò
                                                                                           ઠે
                                                                                                                            8
                                                                                                                                                                      ò
                                                                                                                                                                                     쉽
                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                  名
                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                         ठे
                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                                                                                                                                                                       윰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   윉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 8
```

```
Cdc25C phosphatase, amine; Cdc25 phosphatase; spontaneous alopecia; alopecia; proliferative disease; parasitic disease; viral infection; neurodegenerative disease; myopathy; angiogenesis; psoriasis; restenosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence represents pMAL-HsCdc25C, a plasmid encoding human cdc25C phosphatase. The specification describes the use of arylubbaticated secondary or tertiary amines for the production of medicaments for inhibiting Cdc25 phosphatases, especially Cdc25C phosphatases. The amines of the invention are used for treating spontaneous alopecia or alopecia induced by exogenous products or radiation. They are also used for treating tumoural or non-tumoural proliferative diseases, paraslit cdiseases, viral infections, neurodegenerative diseases are e.g. angiogenesis, psoriasis or restenosis. The amines are also useful for inhibiting the proliferation of microorganisms (especially yeasts) and in the treatment of all disorders conventionally treated with vitamin K or its derivatives
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cdc25 Phosphatase inhibiting medicaments, useful e.g. for treating tumor diseases, viral infections, neurodegenerative disease or alopecia, containing new or known aryl-substituted amines.
2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 maltose binding protein (MBP)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Goubin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Thurieau C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'note= "ORF of human Cdc25C"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            & APPL SCI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nucleotide sequence of pMAL-Hs Cdc25C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Galcera CMO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 18-22; 39pp; French.
```

ò ଶ ጵ g ò 셤 ò 용 ठे a g

ò

ò

유

셤

ò

g

ò 용

ò

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in amino acid sequence of Toxo30de13C P30 antigen sequence is substituted amino acid sequence of Toxo30de13C P30 antigen sequence chosen from MBP-Toxo30de13C(52-300aa), MBP-Toxo30de14C(52-294aa) and MBP-Toxo30mIX1 antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of IgM antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.
                                                                                                Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCGTGTGATGGCGCCCGGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 GIGICICITAICAGACGITICCGCGTGGTGAACCAGGCCAGCCACGITICIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 Tégrégrégrégragancanégrégrégrégrégrégrégrégrégrégratic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTGGTGGTGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rrcrcececaacecercaececrearcarraacrarcecreeareaceagarecea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 12; Length 7259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 7259 BP; 1870 A; 1822 C; 1926 G; 1641 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6; Indels
               Bliese TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81.5%; Score 2690.4;
99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
           Ginsburg SR,
                                                                                                                                                                                            Example 2; Fig 22; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 99.8
Matches 2694; Conservative
           Patel CB,
                                                WPI; 2004-304563/28
                                                                 P-PSDB; ADO23609
           Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                     2280
                                                                                                                                                                                          2340
                                                                                                                                                                                                                                                                 2400
                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                         2460
                                                                                                                                                                                                                                                                                                                                                                              2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2640
                                                                                                                                                                                                                                                                                                                                                                                                         TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                  2700
 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGGATTAC 2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2581 GCCAGCGGTCGTCGACGTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGGTCG 2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2700
                                                                                                                               GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                GAAGCGGTTAATAAAAACAAAACGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                  TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                          AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                       GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACAACAACAATAACAATAACAATACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2641 AACAACAACAACAATAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               encoding MBP-ToxoP30de18(82-294aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AD023608 standard; DNA; 7259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGATCCTCT 2709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGATCCTCT 2709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAINE G T.
PATEL C B.
GINSBURG S R
BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-APR-2004
2101
                                    2161
                                                                                                          2221
                                                                                                                                               2221
                                                                                                                                                                                    2281
                                                                                                                                                                                                                     2281
                                                                                                                                                                                                                                                                                              2341
                                                                                                                                                                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic
                                                                         2161
                                                                                                                                                                                                                                                            2341
                                                                                                                                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                                                                                                                                                                                         2461
                                                                                                                                                                                                                                                                                                                                                                                                                                              2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2701
```

120 120 180

9

Gaps

. 0

240 180

240 300 300 360 360 420 480

480

420

540

900

(PATE/) (GINS/) (BLIE/) (MAIN/)

Wed

6 8 6 8 6 8 6 8 6

6 6 6 6

```
541
                                                                                                        361
                                                                                                                              361
                                                                                                                                                                       421
                                                                                                                                                                                             481
                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                             301
                                                                                                                                                  421
                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1261
                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                            ò
                                                                                                     ò
                                                                                                                         g
                                                                                                                                                 ò
                                                                                                                                                                 g
                                                                                                                                                                                      ò
                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                8 8 8
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30del3C P30 antigen sequence of Toxo30del3C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C(52-300aa), MBP-Toxo30del4C(55-294aa) and MBP-Toxo30MIX1 antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of IM antibodies antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GIGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCACGTTTCTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGAAAGCGGCGATGGCCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                     P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondli; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGACACCATCGAATGGTGCAAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                               Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIXI, useful for detecting presence of IgM or antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 7322;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 7322 BP; 1887 A; 1844 C; 1934 G; 1657 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6; Indels
                                DNA encoding MBP-ToxoP30dell0(52-284aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
81.5%; Score 2690.4; DB 12;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches 6; In
                                                                                                                                                                                                                                                                              TR;
                                                                                                                                                                                                                                                                             Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                              SR,
                                                                                                                                                                                                                                                                                                                                                                                     Example 2; Fig 25; 114pp; English
                                                                                                                                                                                                                                                                            Ginsburg
                                                                                                                                                                           02-OCT-2002; 2002US-00263153
                                                                                                                                                                                               02-OCT-2002; 2002US-00263153
            (first entry)
                                                                                                                                                                                                                    (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                           Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                               WPI; 2004-304563/28.
P-PSDB; ADO23614.
                                                                                               Toxoplasma gondii
                                                                                                                               US2004067239-A1
                                                                                                                                                      08-APR-2004
                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               191
8 & 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        કે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               음 중 음.
```

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1320
                       360
                                                                                                                                                                   420
                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                             009
                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                 rddriddriddriddriddaacdaacddciddaadccridraaagcccccccccaarc
                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781 Argadddarccarracdardcradracaacaarcaaraacaccaraddcaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCGCGCCATTACCGAGTCCGGGCTGCGCTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841 recedentracceaercedecrececerrecedararcreceracedarace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCAAACCGCCTCTCCCCGCGCGTTGGCTTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cecaaacceccrcrccccecccarreeccearrearecaecreecaecreecaecrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAAGGCGACTGGAGTGCCCATGTCCGGTTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTAGGTCGTAAATCACTGCATAATTCG
```

us-09-765-555b-16.rng

8 6 8 6 8 6 8

g

કે

8 6 8

8 6 8 6

ઠે

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del3C p30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30del3C p30 antigen sequence is substituted with alamine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C(52-294aa) and MBP-Toxo30MIX1 fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo230del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                       TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                           AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
               GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAGAG
                                                                                                                         CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                   GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA encoding MBP-ToxoP30del4C(52-294aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 2; Fig 19; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                          BP.
                                                                                                                                                                                                                                                                                                                                                                                                            ADO23603 standard; DNA; 7352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Foxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB; AD023604.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic.
                                                                                                                                                                                                                                                                             2641
                                                                                                                         2521
                                                                                                                                                              2521
                 2401
                                                      2461
                                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                                                                             AD023603
                                                                                                                                                                                                                                                                                                                                                                        RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                           AD023603
                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                        임
                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2400
                                                                                                                                                                                                                                                                                            1620
                                                                                                                                                                                                                                                                                                                                                                                                          1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2340
                                                                                                                                                                                                                                                                                                                                                                        1680
                                                                                                                                                                                                                                                                                                                                                                                                                                               1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                              GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGTCTGACCTTCCTGGTTGACTGATTAAAAACAAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGCCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                 ATTAACGGCGATAAAGGCTATAACGGTCTGCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                           ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGCCACCGCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGATCCCGCCCCCGCATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCATGGTCCAACATCGACACCCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                       CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                    ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTTCACGA
                                                                                                                                                                                                                      ATTAACGCCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                        ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                1441
                                                                                                                                                                                                                                                                                                                                                                                                          1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2341
                                                                                                                                                                                                                                                                                              1561
                                                                                                                                                                                                                                                                                                                                   1561
                                                                                                                                                                                                                                                                                                                                                                        1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2221
                                                                                                          1381
                                                                                                                                               1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2041
                                                                       1381
                                                                                                                                                                                                                                                                                                                                                                                                                                               1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2101
                                1321
                                                                                                                                                                                                                    1501
                                                                                                                                                                                                                                                       1501
```

유

8 8 8

중 염

g

ò

g

ઠે

g

ò

g

8

ò

8 8 8 8

composition comprising (I) and de ly complexes. The present sequence fusion protein of the invention. The protein of the invention. The protein of the invention. The protein of the invention.	694; Conservative 0; Mismatci 1 CCGACACCATCGAATGGTGCAAAACCTTTCC 1	AACCAGTAACGTTATAC	21 GIGICTCTIATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAG 	CGCGGGAAAAAGTGGAAGCGGCGATGCGGAGCTGA	41 AACAACTGGCGGGAAACAGTCGTTGCTGATTGGCGTTGCCAC 	1 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGC	(7)—(7)	21 TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCT 	11 TIGCIGIAGAAGCIGCCIGCACIAAIGIICCGGGGITAITICI 	11 CACCCATCAACAGTATTATTTTCTCCCATGAAGAGGGGTACGCG 	1 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCC 	11 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAA 	1 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTT	1 ATGAGGGATCGTTCCCACTGCGATGCTGGTTGCCACGATCAC	1 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGTTATC	1 ACGATACCGAAGACAGCTCATGTTATA 	
with a antibo ToxoP3 Sequen Suery Mat	Matches 2				0 N	ÖE	.	4 4	4 4 8 8	0 0 4 4	09	9 9	27 27	78	90 90 4 4	6 6	
SSSXS	<i>ት</i>	& සි	<i>∂</i> 8	& 8 8	<i>∂</i> 8	<i>∂</i> 8	& B	\$ B	8	\$ A	& 8	& 8	8 8	ð 8	යි ජි	ò 8	

of a composition comprising (I) and detecting the presence of (I)/IgM body complexes. The present sequence represents DNA encoding a MBP-0P30 fusion protein of the invention.	۸۵ ·	961 GCCTGCTGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020
ence 7352 BP; 1896 A; 1852 C; 1943 G; 1661 T; 0 U; 0 Other;	q	
<pre>latch</pre>	<i>ኢ</i> 8	1021 AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAACCACCCTGGCGCCCCAATA 1080
GCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGGA 60	ζς qa	1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGGTTT 1140 1081 CGCAAACCGCCTCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT 1140
	cy GD	1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAATTAATGTGAGTTAGCTCACTCA
GAAAA	% q ₀	1201 GCACAATTCTCATGTTTGACAGGTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260
7GGCAC	<i>k</i> 90	1261 TCAGGCAGCCATCGGAAGCTGTAGCTATGCAGGTCGTAAATCACTGCATAATTCG 1320
241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGCCACTTGCCACCTCCAGTCTGGCCCTGC 300	& g	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380
CAGCG	<i>ò</i> 9	1381 CTGGCAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440
CAATC	<i>ò</i> 8	1441 ATTGTGAGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTGAGA 1500
TGCCA TGCCA	<i>∂</i> 8	1501 GCACTTCACCAACAAGAACCATAGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560
CCAGA	<i>∂</i> 8	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTCGAAGTCGCTAAGAAATTCGAGAAAGAT 1620
GCATC 	ራ ብ	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680
CTCGG 	ζ, Op	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC 1740
CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720 	ç, Q	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800
SCTGA CTCGA CTCGA	oy Ob	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
	Vy QD	1861 GAAGGGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCGGCCAAAAACCTGGGAA 1920
ATACG ATACG	λο qa	
ACGATACCGAAGACACCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 	ò a	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGGGGGGTTATGCGTTCAAG 2040

용 ઠે ద ઠે 셤 ठे

8 ઠે g ઠે 6 셤 ઠે 요

ઠ

용

ò

음

ઠે

ద

ò

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del2C, Toxo30del2C and Toxo930 MXI sequences, having 1-6 amino acids added to the C-terminus ocid maino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence of maino acid sequence of C Poxo30del3C P30 antigen sequence in card sequence of Toxo30del3C P30 antigen sequence of Toxo30del3C P30 antigen sequence is substituted amino acid sequence of Toxo30del3C P30 antigen sequence of P0xo30del3C P30 antigen sequence of Substituted with alanine, or comprising the amino acid sequence chosen from MBP-TOxo30del3C(52-30da), MBP-TOxO30del4C(52-294a) and MBP-TOxO30MIXI fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-TOXOP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                    Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Grcaatricagggrggrgaargrgaaaccagraacgrratacgargrcgcagagrargccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 12; Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7370 BP; 1901 A; 1855 C; 1949 G; 1665 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6; Indels
                                          Bliese TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches
                                          Ginsburg SR,
                                                                                                                                                                                                                                        Example 2; Fig 15; 114pp; English
                                                                                                                                                                                               antibodies to Toxoplasma gondii.
                                        Patel CB,
                                                                           WPI; 2004-304563/28
P-PSDB; ADO23599.
    ᅜ
  BLIESE T
                                          Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
    (BLIE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                           2220
                                                                                                                                                                                                                                      2280
                                                                                                                                                                                                                                                                             2280
                                                                                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                                                                                                          2340
                                                                                                                                                                                                                                                                                                                                                                                               2400
                                                                                                                                                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2700
2641 AACAACAACAACAATAACAATAACAACACCTCGGGATCGAGGGAAGGATTCAGAATTC 2700
                                                                                                                                                                               TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                      TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                      GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                           GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                          AAGGGTCAACCATCCAAACCGTTCGTTGGTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAAAGCCCCAGAAAGGTGAAATCATG
                                                                                                                                                           TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                  2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                 GAAGCGGTTAATAAAGACAAACCGCTGGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACAACAACAACAATAACAATAACAACCACGGGGATCGAGGGAAGGGAATTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                               GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA encoding MBP-ToxoP30del3C(52-300aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AD023598 standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAINE G T.
PATEL C B.
GINSBURG S R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          roxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                               2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2461
                                                                             2101
                                                                                                                    2101
                                                                                                                                                           2161
                                                                                                                                                                                                 1917
                                                                                                                                                                                                                                      2221
                                                                                                                                                                                                                                                                           2221
                                                                                                                                                                                                                                                                                                                                                        2281
                                                                                                                                                                                                                                                                                                                                                                                                                                        2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MAIN/) N
(PATE/) H
(GINS/) C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AD023598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AD023598
```

THE STATE OF THE S

ö

1511 GCGCGAMCTGCCGTGACTTATTATTCTCTGGCCACACCACCACCACCACTTTGGTGGCTAC 1740	Db 2641 AACAACAACAATAACAATAACAACACCTCGGGATCGAGGAAGGA
\$1 CACCATCAACAGINTIATITICCCCATGAAGACGGTACCCACTGGGCGTGGACATC 60 INGSTEACAGCACAACAGCATTACACTTACCGGGCCCATTAAGTTCTTCTCCG 60 INGSTEACAGCTACACACAATCCGCTGTAAATTCTCACCACCATTAAGTTCTTCTCGG 61 CACCATCGGGTTCGGCTGCAATCCGCTTCACATTACACCCCATTAAGTTCTCTCGG 62 CACCATCGGGTTCGGCTGCAATCCGGTTCACATTACACCCCATTAAGTTCTCTCA 72 CACCACCGGAACCCGGCTGCAATCCGGTTTCACAACCCCATTAAGTTCTCTCA 73 CACCACCGGAACCCCACTCGGGTTCACATTCACATTCCACATTCCACATTCCACATTCCACATT	ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAGGT 162 ACCGGAATTAAAGGCTGGGATCCGGATAAACTGGAAGAATTCCCACAGGTT 168

us-09-765-555b-16.rng

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                      300
                                                                        300
                                                                                                            360
                                                                                                                                                 360
                                                                                                                                                                                     420
                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCATGCTTCTGGCG
CGCGGGAAAAAGTGGAAGCGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                        CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCTTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCTGGCAAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u> argadddcarddriccaergeddargerigeeraegarcaargargdcergdgeegaa</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 recececcarraceasorecesecrececerrecesesararereceracearace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCAAACCGCCTCTCCCCGCGCGGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                           ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                             Accecercercanantercecededatranarercecedecedarcanerecedece
                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                        regresricaresradadesadesecercicaaacesecercaaacesecercaare
                                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                   TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGAACGGCAAGGCCACTGCCCATGTCCGGTTTTCAACAAACCATGCAAATGCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u> ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAAGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261
                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1021
                                                                          241
                                                                                                            301
                                                                                                                                                 301
                                                                                                                                                                                     361
                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                            염
                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 8
                                    8
                                                                                                           ò
                                                                                                                                             d
                                                                                                                                                                                     ò
                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30del3C P30 antigen sequence is substituted with alamine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C(52-30daa), MBP-Toxo30del4C(52-294aa) and MBP-Toxo30mix1 fusion proteins (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Grercritarcagaccerrrecegeregreaaccageceaecacerrrereceaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (1)/10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGGCGCCCGGAAGAGA
                                                                                                         P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel purified polypeptide having sequence identity to amino acid aequence of F30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 12; Length 7370,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7370 BP; 1900 A; 1856 C; 1950 G; 1664 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bliese TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81.5%; Score 2690.4;
99.8%; Pred. No. 0;
iive 0; Mismatches
                                                                          DNA encoding MBP-ToxoP30MIX1 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 5; Fig 31; 114pp; English
                                                                                                                                                                                                                                                                                                              02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                  02-OCT-2002; 2002US-00263153
                                      01-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similaricy 22.0
Matches 2694; Conservative
                                                                                                                                                                                                                                                                                                                                                                                        MAINE G T.
PATEL C B.
GINSBURG S R.
BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2004-304563/28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                   Toxoplasma gondii.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P-PSDB; ADO23640
                                                                                                                                                                                                                                         US2004067239-A1.
                                                                                                                                                                                                                                                                             08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                      (MAIN/) N
(PATE/) E
(GINS/) C
(BLIE/) E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
```

음 &

8 8

ઠે

셤

ò

ઠે ద õ g ઠે 쉱 8 8

ò

යි දි

중 음

셤

요 ò

ò 셤

ď ò

ઠે 요 ò

8 6 8

8 8 8

8 8 8 8 8

```
The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30de12C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the mino acid sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30de13C(52-294aa) and MBP-ToxO30mix1 fusion proteins. (1) is useful for detecting the presence of IgM
                                                2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                           GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                     GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                              CCGAACATCCCGCAGATGTCCGCCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ör
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ę.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA encoding MBP-ToxoP30MIX5 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 5; Fig 35; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                  ВЪ
                                                                                                                                                                                                                                                                                                                                                                                  DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-OCT-2002; 2002US-00263153.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-OCT-2002; 2002US-00263153.
                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2004-304563/28.
P-PSDB; ADO23650.
                                                                                                                                                                                                                                                                                                                                                                                standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Foxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic.
                                                                                                                  2461
                                                                                     2461
                                                                                                                                                2521
                                                                                                                                                                             2521
                                                                                                                                                                                                            2581
                                                                                                                                                                                                                                         2581
                                                                                                                                                                                                                                                                                                                                                                              AD023649
                                                                                                                                                                                                                                                                                                                                                                                                             ADO23649;
                                                                                                                                                                                                                                                                                                                                                   RESULT 13
                                                                                                                                                                                                                                                                                                                                                                AD023649
                                             g
                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                          g
                                                                                                                                   ò
                                                                                                                                                                                                          8
                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                    1620
                                                                                                                                                                                                                                                                                                                                              1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1860
TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
                                                                                                                                                                                                                                                                                                                                                                                                                     1681 GCGGCAACTGGCCGTGACCTTATCTTCTGGGCACACGCTTTGGTGGCTAC 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2400
                                              1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                           1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                  CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGCCTCGTATAATGTGTGGA
                                                                                                                                                    ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                               GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                            ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                    ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                      ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                GCGGCAACTGGCGATGGCCCTGACATTATCTTGGGCACACGACGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1981 CIGCAAGAACCGIACITCACCIGGCCGCTGAITGCTGCTGCTGAGGGGTTAIGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGGGTGGATAACGCTGGCGCGAAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCATGGTCCAACATCGACCAGCAAGAGATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGGTGACTGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAAGAATGCAGACACGGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCCGTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rccarcecagaaecrecerrraaraagecgaaacaecgareaccarcaaceeceres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGTGTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                          1381
 1261
                                1321
                                                                                                                                                     1441
                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                               1501
                                                                                                                                                                                                                                                                              1561
                                                                                                                                                                                                                                                                                                         1561
                                                                                                                                                                                                                                                                                                                                        1621
                                                                                                                                                                                                                                                                                                                                                                     1621
                                                                                                                                                                                                                                                                                                                                                                                                   1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1741 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1861 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2281
```

IgG

.rng

```
1441
                                                                                                                                                                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                     1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                                                                                          1501
                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                       1621
                                                                                                                                                                                                                                                                                                                                                                                    1681
                                                                                                                                                                                                                                                                                                                                                                                                   1681
                                                                                                                                                                                                                                                                                                                                                                                                                                              1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1921
                                                                                                                                                                       1261
                                                                                                                                                                                      1261
                                                                                                                                                                                                     1321
                                                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                1381
                                                                                                                                                                                                                                                                1441
                                                                                                                                                                                                                                                                                                                                                                                                                  1741
                                                                                                                                                                                                                                                                                                                                                                                                                                1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1801
                                                    1021
                                                                 1021
                                                                               1081
                                                                                               1081
                                                                                                              1141
                                                                                                                            1141
                                                                                                                                          1201
                                                                                                                                                        1201
                                                                                                                                                                                                                                  1381
                                                                                                                                                                                                                                                                                            1501
         901
                                     961
                      961
                                                                                                                                                                                                                                                                                       දු පු
                                                                                                                                                                                                                                                                                                                    8 6 8 6
                                                                                                                                                                                                                                                                                                                                                                                6 6 6 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                임
                                                                                                                                                                                                                            g G
                                                                                                                                                                                                                                                          상
음
       원
장
                                g
                                                  8 6 8 6
                                                                                                           के क्षे के
                                                                                                                                                     g
                                                                                                                                                                      ò
                                                                                                                                                                                 g
                                                                                                                                                                                              ેં
                                                                                                                                                                                                                                                                                                                                540
                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              960
                                                                                                                    120
                                                                                                                                   120
                                                                                                                                                 180
                                                                                                                                                                180
                                                                                                                                                                               240
                                                                                                                                                                                             240
                                                                                                                                                                                                            300
                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                            999
                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                        9
                                                                                                     9
antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.
                                                                                                                                                 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                           CGGAACGGGAAGGCGACTGGAGTGCCATGTTCAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               recececcarracceaercceecrececerreerecesararcreerragenatice
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATAGCCG
                                                                                                                                                                               CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                       AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Argagggarcerreccacreceargergerreccaacgarcagargegegergegegaa
                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                           ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                       TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGCAAATC
                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                         Gaps
                                                          Length 7370
                                            Other;
                                                                         ;
                                            0
                                                                         Indels
                                             'n,
                                             0
                                                          12;
                                             .;
                                                                         9
                                                          DB
                                             1663
                                                         Score 2690.4;
Pred. No. 0;
0; Mismatches
                                             C; 1950 G;
                                             Sequence 7370 BP; 1900 A; 1857
                                                          81.5%;
99.8%;
                                                         Query Match
Best Local Similarity 99.8
Matches 2694; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                        -
                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                              181
                                                                                                                                                                                                             241
                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                     61
                                                                                                                                   19
                                                                                                                                                 121
                                                                                                                                                                                181
                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                  6 B 6 B 6 B 6 B 6 B 6 B 6 B 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6668
88888888
                                                                                        8 &
                                                                                                                    6 B 6
                                                                                                                                                             음 상 음
                                                                                                                                                                                                                       음 성 음
                                                                                                                                                                                                      8
```

GCACTTCACCAACAACGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAAATCTGG GCGGCAACTGGCCGTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC GCGGCAACTGGCCGTTGGCCCTGACATTATCTTCTGGGCACACGGCTTTGGTGGCTAC GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT CGGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCAAAAACCTGGGAA GAGATCCCGGGGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGATGACGGGGGTTATGCGTTCAAG ACGATACCGAAGACAGCTCATGTTATATCCCGCGGTAACCACCACCATCAAACAGGATTTC GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGCTAAGAAATTCGAGAAAGAT ACCEGAATTAAAGTCACCETTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCCCCAATA CGCAAACCGCCTCTCCCCCGCGCGGTTGGTTCATTAATGCAGCTGGCACGACAGGTTT

Wed Aug

CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040

2161

6 6 6

2221 2221

> 윱 ò g ò ద

2101 2101 2161

ઠે

g

ઠે 용 2281

2281 2341 2401 2401 2461 2461 2521 2521

à

g

ठे

셤

8 g ò 요 ò 셤

(PATE/)

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de12C and ToxoP30 MXX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence chosen from which alanine, or comprising the amino acid sequence chosen from MBP-Toxo30de13C(52-300aa), MBP-Toxo30de14C(52-294aa) and MBP-Toxo30MIX1 fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-Toxo930 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                           Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 GTCAATTCAGGGTGCTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAACTIGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 CGCGGGAAAAAGTGGAAGCGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Acececcercecaantrerceceecaartaantercececcearcaacreceaece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361 TGGTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGCTGTGGAAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 ccGacaccercGaarGGrGcAaaaccrrrcGCGGrarGGCarGaraGCGCCCGGGAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 didictritaticadacidiriticicedendaleaaccadeceaeceaectritereceaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Treregedadecareargacidarearranceargargargacagargeda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 7370 BP; 1900 A; 1857 C; 1950 G; 1663 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 12;
                                                                                 Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81.5%; Score 2690.4; 99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                               Ginsburg SR,
                                                                                                                                                                                                                                                                               Example 5; Fig 33; 114pp; English.
                                                                                                                                                                                                                   Toxo30del2C, ToxoP30 MIX1, useful antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 99.8
Matches 2694; Conservative
                                                                               Patel CB,
PATEL C B.
GINSBURG S F
BLIESE T R.
                                                                                                                     WPI; 2004-304563/28
                  GINSBURG 8
                                                                                                                                          P-PSDB; ADO23645
                                                                               Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                  (GINS/)
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                원
                                                                                                                                                                                                2220
                                                                                                                                                                                                                                        2220
                                                                                                                                                                                                                                                                             2280
                                                                                                                                                                                                                                                                                                                     2280
                                                                                                                                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2580
                                                      2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2580
                                 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACATGAATGCAGACACGGATTAC
                                                                                                                                                                                                                                                                                                                                                                              GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                            TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                    TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                         GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                 GCATGGTCCAACATCGACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                         AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tridectanadarccacerarrecceccacrarecananceccaganagerenarreare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2641 AACAACAACAACAATAACAATAACAACATCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA encoding MBP-ToxoP30MIX3 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AD023644 standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MAIN/) MAINE G T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Foxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-APR-2004
```

2581

2581

2641

RESULT 14

AD023644;

Synthetic.

THE PROPERTY BEARABARABARABARABARABARABARABARABARABAR
10 COCCUCACACACTATATATATATACCATCACACACACACACA

300 360 420

480

540 540 600 099 9 720 720 780 780 840 840 900

900

480

```
CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                          Acececcenceantricicececcantraanterececceancaactrecidecages 360
                                            AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                      ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                               481 TIGCIGIGGAAGCIGCCIGCACIAAIGIICCCGCGGIIAITICIIGAIGICCCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGGCATCGTTCCCACTGCGATGCTTGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901 ACGATACCGAGGAGACGCTCATGTTATATCCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTGCTGCTGGGGGCAACCAGCGTGGACCGCTTGCTGCTGCAACTCTCTCAGGGCCAGGCGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCAAACCGCCTCTCCCCCGCGCGTTGGCCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTGCTGGGGCAAACCAGCGGTGGAACTGCTGCAACTCTCTCAGGGCCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                   241
                                                                                                                                            301
                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                        301
                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                              ద
                                                                                 à
                                                                                                       셤
                                                                                                                                 ò
                                                                                                                                                               g
                                                                                                                                                                                                    ò
                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                   g S
                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                              8 6
                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of ToxO30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence in substituted with alanine, or comprising the amino acid sequence is substituted with alanine, or comprising the amino acid sequence of room MBP-ToxO30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence of IGM ToxO30de13C (52-230aa), MBP-ToxO30de14C (52-294aa) and MBP-ToxO30MIX1 fusion proteins. (1) is useful for detecting the presence of IGM antibodise to ToxOplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IGM antibody complexes. The present sequence represents DNA encoding a MBP-CC ToxOp30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                   P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 81.5%; Score 2690.4; DB 12; Length 7403; Best Local Similarity 99.8%; Pred. No. 0; Matches 2694; Conservative 0; Mismatches 6; Indels 0; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 7403 BP; 1907 A; 1863 C; 1961 G; 1672 T; 0 U; 0 Other;
                                                                                                      DNA encoding MBP-ToxoP30del2(52-311aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                      TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 2; Fig 11; 114pp; English
                    ВР
                    DNA; 7403
                                                                                                                                                                                                                                                                                                                              02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                 02-OCT-2002, 2002US-00263153
                                                                          01-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                        (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2004-304563/28.
P-PSDB; ADO23595.
                 ADO23594 standard;
                                                                                                                                                                                            Toxoplasma gondii
                                                                                                                                                                                                                                      US2004067239-A1
                                                                                                                                                                                                                                                                     08-APR-2004
                                                                                                                                                                                                             Synthetic.
                                              AD023594;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 8 8
```

1080

960 900

960

	Search completed: August 1, 2005, 04:28:44 Job time : 1101.6 secs							
1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGGAATCACTGCATAATTCG 1320 116	21 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT		1801 CCGTTTACCTGGGATGCCGTACGTTACACGGCAGGTGATTGCTTACCCGATCGCTGTT 1860 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGGCCAAAACCTGGGAA 1920	921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC	1981 CTGCAAGAACCGTTCTCACCTGGCCGCTGATTGCTGAGGGGGTTATGGTTCAGG 2040 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAAG 2040 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACACATGAATGCAGACACCGATTAC 2160 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAACACATGAATGCAGACACCGATTAC 2160 2161 TCCATCGCAGAAAGCTGCCTTTAATAAAGGGGAAACAGGGGATGACGACCATCAACGGCCGTGG 2220	2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAACAGCGATGACCATCAACGGCCGTGG 2220 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGAAACGGTACTGCCGACCTTC 2280	2281 AAGGGTCAACCATCCAAACCGTTGGTGGGGGGGGGGGGG
8 6 8 6 8 6 8 6 8 6	8 6 6 6	6 B 6	g & g	8 8 8	8 & 8 &	8 8 8	역 상 업	6 B 6

THIS PAGE BLANK (USPTO)

20 1462.4 44.3 4945 6 AX768200 AX768200 Sequence AX768202 Sequence AX768202 Sequence AX768202 Sequence AX768203 AX768202 Sequence AX768203 AX768203 Sequence AX768203 Sequence AX16824 44.3 4951 6 AX768203 AX768203 Sequence AX16824 44.3 4951 6 AX719685 AX219686 AX219686 Expression AX219686 Expression AX219686 Expression AX219688 Expression AX219688 Expression AX219689 Expression Expressi	RESULT 1 AX202428 LOCUS LOCUS AX202428 LOCUS ACCESSION Sequence 16 from Patent WO0152620. ACCESSION AX202428.1 GI:15392176 AX202428.1 GI:15392176 AX202428.1 GI:15392176 AX202428.1 GI:15392176 AX202428.1 GI:15392176 CHERRICE SOURCE STRIPPER CONSTRUCT ORGANISM Synthetic construct AUTHLE Methods and compositions to modulate expression in plants JOCHNAL FRAUERS TILLE Methods and compositions to modulate expression in plants JOCHNAL TO SCRIPPS Research Institute (US); SYNGENTA AGRICULTURAL THE SCRIPPS LOCATION/Qualifiers II. 3300 AUTHLE METHOD STRIPPS AUTHORIC CONSTRUCT AUTHORICE	Ouery Match Query Match Query Match 100.0%; Score 3300; DB 6; Length 3300; Best Local Similarity 100.0%; Pred. No. 0; Matches 3300; Conservative 0; Mismatches 0; Indels 0; Gaps 0; QV 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCCCCGGAAGAG 60 DD 1 CCGACCCATCGAATGGTGCAAAACCTTTCGCGGTATGCATGATAGCCCCGGAAGAG 60 QV 61 GTCAATTCAGGGTGGTGAATGTGAAACCTTATACGATGATGCCCCGGAAGAGG 60 QV 61 GTCAATTCAGGGTGGTGAATGTGAAACCTTATACGATGATGTCGCAGAGTATGCCG 120 QV 61 GTCAATTCAGGGTGGTGAATGTGAAACCATAAACGTTATACGATGTCGCAGAGTATGCCG 120 QV 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACGTTATACGATGTCGCAAGATATGCCG 120 QV 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCTTATACGATTTCTGCGAAAA 180 QV 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCA
GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen Ltd. OM nucleic - nucleic search, using sw model Run on: July 31, 2005, 20:22:50; Search time 9276 Seconds (without alignments) 17238.272 Million cell updates/sec Title: US-09-765-555B-16 Perfect score: 3300 Sequence: 1 ccgacaccatcgaatggtgcacgacgttccggactacgct 3300 Scoring table: IDENTITY NUC Gapop 10.0, Gapext 1.0 Searched: 4708233 seqs, 24227607955 residues Total number of hits satisfying chosen parameters: 9416466 Minimum DB seq length: 200000000 Maximum DB seq length: 200000000 Post-processing: Minimum Match 100* Listing first 45 summaries	bb:* .ba:* .in:* .in:* .in:* .in:* .pov:* .poi:* .p	No. Score Match Length DB ID Description

ignthetic construct synthetic construct other sequences; artificial sequences.

REFERENCE

16 16 16 16 16 16 16 16	CGCGTCTGCGTCTGGCTGGCTGAATATCTCACTCGCAATCAAATTCAGCCGATAG CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG CGCGTCTGCGTCTGGCTGGCTGGCTGCATCACTCGCAATCAAATTCAGCCGATAG CGGAACGGGAAGGCGATGCATGTCCGCTTTTCAACAAACCATGCAATGCTGA ATGAGGCATCGTTCCCACTGCTGGTTGCCGTTTTCAACAAACCATGCAATGCTGA ATGAGGCCATTCCCACTGCGTTGGTTGCCAACGATCAGATGCTGGAATGCTGAATGCTGAATGCTGGTTGCTGGTTGCTGATGCTGGTTGCTGAATGCTGGAATGCTGGTTGCTGGTTGCTGATTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGT	AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA AGGGCAATCAGCTTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCCTGGCGCCCCAATA CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTTGCACACGCACAGGTTT CCCGACTGGAAAGCGGCATTGGCCGATTCATTAATGCAGCTTGCCCACTCATTAG CCCGACTGGAAAGCGGCGTTGGCCGATTCATTAATGTGAGCTTAGCTCACTCA
	8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
Db 3001 CCCTATGCTTGTCGGAATGTGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACC 3060 Qy 3061 CAGCGTACCCACACGGGTAAAACCGTATAAATGCCCAGAGTGCGCAATCTTTTAGT 3120	RESULT 3 AX202426 AX202426 LOCUS ACCESSION AX202426 AX202426 ACCESSION AX202426 AX202426 AXCESSION AX202426 AX202426 AX202426 AXCESSION AX202426 AX2024	Query Match 97.2%; Score 3207.2; DB 6; Length 3300; Best Local Similarity 98.2%; Pred. No. 0; 0; Gaps 0; Matches 3242; Conservative 0; Mismatches 58; Indels 0; 0; Qy 1 CCGAACCANTCAGATGGAAAACCTTACGCGGATGATGGCATGATGGCCCGGAAGAA 60 CGGACACCATCGAATGGTGAAACCTTACGCGGATGATGCCCCGGAAGAA 60 CGGACACCATCGAATGGTGAAACCTATCGCGGATGATGCCCCGGAAGAA 60 CGGACACCATCGAATGGTGAAACCTATCGCGGATGATGCCCCGGAAGAAA 60 CGGACACCATCGAATGGTGAAACCTATCGCGGATGATGCCCCGGAAGAAAA 60 CGGACACCATCGAATGGTGAAACCTATCGCGAATGCCCCGGAAGAAAA 60 CGGACACCATTCAGGAATGTGAAACCAGGCCAGGCAAGATTATACGATGCCAAGATTACCGAAAAAAAA

Db 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTCGGTGATCAACGCC 2580 9y 2581 GCCAGCGTCGTCAGACTGTCGATGAAGCCCTGAAAGACTGAATTCGAGCTCG 2640 Db 2581 GCCAGCGGTCGTCGACTGTCGATGAAGCCCTGAAAGACTAATTCGAGCTCG 2640 9y 2641 AACAACAACAATAACAATAACAACAACAACACTCGGGAACGAAC	Db 2761 CGGGAATGTGGTAAGTCTTCTCAGAGCTCTCGCTGGTGCGCCACCAGCGTACCCAC Qy 2821 ACGGGTGAAAAACCGTATAATGCCCAGAGTGCGGCAATCTTTTAGCACCAGCGGTCC 2880 2821 ACGGGTGAAAAACCGTATAATGCCCAGAGTGCGGCAATCTTTTAGCACCAGCGCTC 2880 Qy 2881 CTGGTGGGCCATCAACGCTCATACTGGCGGCGAATCTTTTAGCAGCAGCAGCAAC Qy 2881 CTGGTGGGCCATCAACGCTCATACTGGCGGAGAATGTCCAGAATGTGGC 2940 Db 2881 CTGGTGGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940 Qy 2941 AAGTCTTTCAGCCAGAGTCCAGGCGGGGGGAGAAG 3000 Db 2941 AAGTCTTTCAGCCAGAGTCTGACAATCTCGGCCACCAACGTACTCACACGGGGAGAAG 3000 Db 2941 AAGTCTTTCTCTCGGTCTGACAATCTCGGCCACCAACGTACTCACACGGGGAGAAG 3000	3001 3001 3061 3121 3121 3181 3181	RESULT 4 AX202427 AX202427 AX202427 LOCUS DEFINITION Sequence 15 from Patent W00152620. VERSION AX202427 3300 bp DNA linear PAT 30-AUG-2001 ACCESSION AX202427 4 GI:15392175 KEYWORDS . ORGANISM Synthetic construct ORGANISM Synthetic construct ORGANISM Sprinchic construct ORGANISM Synthetic construct ORGANISM Sprinchic construct ORGANISM Sprinchic construct ORGANISM Synthetic construct ORGANISM Sprinchic construct OFFERENCE AUTHORS BATHORS AUTHORS AU
		TCAAC TCAAC TCAAG	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

961 GCCTGCTGGGCGCAAACCACCGTGAACCGCTTGCAAACTTCTTGCAACTCTTCTGGGCCGCGATGA 1000 1021 AGGCCAATCACCTTTGCCCGTTCACTGCAAAAAACCCCCTTGGCGCCCCAATA 1000 1021 AGGCCAATCACCTTTGCCCGGTTCACTGCAAAAAACCCCCTTGGCGCCCCCCAATA 1000 1021 GCCCAAAACCCGCTTCCCCGCGCTTTGCCCGAATTAATCACACTTGCACACACA
1 5 6
Comparison

ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 168	21 GAGAT 21 GAGAT 21 GAGAT 21 GAGAT 41 TATGA 41 TATGA 61 GGTCT 61 GGTCT	2161 TCCATGCCGGAGCTGCTTTAATAAAGGCGAAACAGCGATGACCATCCAACGGCCGTGG 2220 2161 TCCATGCCGGAAGCTGCCTTTAATAAAGGCGATGACCATCCAACGGCCGTGG 2220 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAATGACCATCCAACGGCCCGTGG 2220 2221 GCATGGTCCAACATCGACACACAGCAAATTATGGTGTAACGGTAACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACAGCAAAGTGAATTATGGTGTAACGGTAACTGCCGACCTTC 2280 2281 AAGGGTCAACCATCCAAACGTTGGTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340 2281 AAGGGTCAACCATCCAAACGGTTGGTGGCGTGCTGAGGGTATTAACGCCGCCAGT 2340 2341 CCGAACAAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTG 240 2341 CCGAACAAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTG 240 2341 CCGAACAAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTG 2400	2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTCAAGTCTTACGAGGAAGAG 2460 2401 GAAGCGGTTAATAAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 2461 TTGGCGAAAGTCCTACTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 2461 TTGGCGAAGATCCACGTATTGCCGCTAGGAAAACGCCCAGAAAGGTGAATCATG 2520 2521 CCGAACATCCCGCAATTGCCGCTTCTGGAAACGCCCAGAAAGGTGAATCATG 2520 2521 CCGAACATCCCGCAGTTTGCCGTTTCTGGTATGCCGTGCTACTGCGGTGATCAACGCC 2580 2521 CCGAACATCCCGCAGTTTCTGGTATGCCGTGCTACTGCGGTGATCAACGCC 2580 2581 GCCAGCGGTCGTCGATTGTCTGGTATGCCGTGCTACTGCGGTGATCAACGCC 2580 2581 GCCAGCGGTCGTCGATGAAGCCCTGAAAGACGCCAGAACTAATTCGAGCTCG 2640 2641 AACAACAACAACAATAACAACAACACCTCGGGGTCGAACGCCGAGATTTCAGAATTC 2700 2641 AACAACAACAACAATAACAAACAACACCTCGGGGTCGGAGCGAACTTTCAGAATTC 2700 2641 AACAACAACAACAATAACAACAACACCTCGGGGTCGGGGGAAGGGTTTCAGAATTC 2700 2641 AACAACAACAACAATAACAACAACACCTCGGGGAACGGAAGGGTTTCAGAATTC 2700 2641 AACAACAACAACAATAACAACAACACCTCGGGGAACGGAAGGGATTTCAGAATTC 2700 2641 AACAACAACAACAATAACAACAACACCTCGGGGAACGGAAGGGATTTCAGAATTC 2700 2701 GGATCCTTCTTCTTGTGGCCCTCGAGCCCGGGGGAAGGGATTTCAGAATTC 2700 2701 GGATCCTTCTTCTTGTGGCCCTCGAGCCCCGGGGGAAGGGATTTCAGAATTC 2700 2701 GGATCCTTCTTCTTCTTGTGGCCCTCGAGCCCCGGGGGAAGGGATTTCAGAATTC 2700 2701 GGATCCTTCTTCTTCTTGTGGCCCTCGAGCCCCGGGGGAAGGGATTTCAGAATTC 2700 2701 GGATCCTTCTTCTTCTTCTTGTGGCCCTCGAGGCGCGGGGGAAGGGATTTCAGAATTC 2700 2701 GGATCCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTC
6 8 6 8 6 8 6 8 6	86868686	8 6 8 6 8 6 8	8 8 8 8 8 8 8 8 8
CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGACTGGGGGTGGAGCATC	TGCGCGCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG		CGGTT 138 CGGTT 138 CGGTT 138 CGGT 138 CGGT 138 CGGA 144 CGGA 150 CGGG 156 CGGG 166
TCAACAGTATTATTTTCTCC	TTACCGAGTCCGGGCTG TTACCGAGTCCGGGCTG TTACCGGGTCCGGGCTG TAGACAGCTCATGTTAT TAGACAGCTCATGTTAT TAGACAGCTCATGTTAT TAGACAGCTCATGTTAT TAGACAGCTGGAC THE THE THE THE TAGACAGGCTGGAC THE THE THE THE TAGACAGGCTGGAC THE THE THE TAGACAGTCTCAGAC THE THE TAGACAGTCTCAGAC THE THE TAGACAGTCTCAGAC TAGATTGCCCGTCTCAGAC TAGATTGCCCGCTCTCAGAC TAGATTGCCCGCTCTCAGAC TAGATTGCCCGCTCTCAGAC TAGATTGCCCCGCTCTCAGAC TAGATTGCCCCCCCCCC	CTCTCCCGGGGGTTG	AGCGCACTCCCGTTCT AGCGCACTCCCGTTCT ATCTGAAATGAGCTGT ATCTGAAATGAGCTGT ATCTGAAATGAGCTGT ATCTGAAATGAGCTGT ATCTGAAATGAGCTGT ATCTGAAATGAGCTGT ATCTGAAATGAGCTGT ATCTGAAATGAGCTGT ATCTGAAATGAGCTGT ATCTGAAATGAGCTGTAGAT ATCAAGGCTATAACGG ATTAAAGGCTATAACGG ATTAAAGGCTATAACGG

AKEPLENYLLTDEGLEAVNKDKPLGAVALKSYEEELAKDPRIAATWENAQKGEIMPNI PQMSAFWYAVRTAVINAASGRQTVDEALKDAQTNSSSNNNNNNNLGIEGRISEFG SSSPGKPPRLVGGFWDASVEEGVRRALDFAVGETVKASNDWTHSRALQVVRARKQIV AGVNYFLDVELGRTTCTKTGPUDDNLFRKRAFGSFGTYAVPWGGTWTLGKS TCQDASASHHHHHHGATTGTKTGPREGVRRALSSOTGRHDLYNDFSDVGWNNNTVAPPGYH AFYCHGEOFFPLADHLNSTNHAIVQTLVNSVNSKIPKACCVPTELSAISMLYLDENEK VLKNYQDMVVEGGGR" misc_feature	Ouery Match 82.0%; Score 2705.8; DB 6; Length 7373; Best Local Similarity 99.2%; Pred. No. 0; Matches 2719; Conservative 0; Mismatches 22; Indels 0; Gaps 0;	OY 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGTGATAGCGCCCGGAAGAGA 60.	QY 61 GTCAATTCAGGGTGGTGAAATGTGAAACCTTATACGATGTCGCAGAGTATGCCG 120	OY 121 GTGTCTTATCAGACGTTTCCCGCGTGGTGAACCAGGCCAGCCA	QY 181 GGCGGGAAAAAGTGGAAGCGCGATGGCGGGCGACGACTGAATTACATTCCCAACCGCGTGGCAC 240 Db 181 GGCGGGAAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	Qy 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC 300	Ay 301 ACGCCCGTCGCAAATTGTCGCGCCGATTAAATCTCGCGCCGATCAACTGGCTGCCAGCG 360	Qy 361 TGGTGGTGTCGATGGTAGACGAGCGGCGTGTAAAGCGGCGGTGCAATC 420 Db 361 TGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC 420	OY 421 TICTGGGGAACGGGTGAGTGGGCTGATCATTAACTATCGGTGGATGACCAGGATGCCA 480	Qy 481 TIGCTGIGGAAGCIGCCCGCACTAAIGTICCGGGGTTATTCTIGAIGTCTCTGACCAGA 540	QY 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGTACGCGACTGGAGCATC 600 Db 541 CACCCATCAACAGTATTATTTTCTCCCATGAACACGGTACGCGACTGGAGCATC 600	ניז—ניז	OY 661 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCGGCCGATAG 720	Oy 721 CGGAACGGAAGGCGACGGAGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780	QY 781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGTGGGGCGCAA 840
	AGAAG 300 AGAAG 300	m m	QY 3061 CAGCGTACCCACGGGGGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGT 3120 Db 3061 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120	Qy 3121 GACTGCCGCACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180 Db 3121 CGCAGCGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180	Qy 3181 CCAGAATGTGGCAAGTCTTTCTCCCAATCCAGCCATCTCGTCCGGCACCAACGTACTCAC 3240 Db 3181 CCAGAATGTGGCAAGTCTTCTCAACTTCAGGCCATTTGGTCGTCACCAACGTACTCAC 3240	Qy 3241 ACCGGTAAAAAAAAACTAGGCCAGGCCAGTACCCGTACCAGTTCCGGACTACCGT 3300 Db 3241 ACCGGTAAAAAACTAGTGGCCAGCCAGTACCCGTACCAGTTCCGGATTCCGGATTACCGT 3300		LOCUS AX284144 7373 bp DNA linear PAT 20-NOV-2001 DEFINITION Sequence 1 from Patent W00178756. ACCESSION AX284144 USESSION AX284144.1 GI:17044832	KEYWORDS . SOURCE synthetic construct ORGANISM synthetic construct ORGANISM squences, artificial sequences.	G. after th	Depuy Biotech Jena GmbH (DE) FEATURES Location/Qualifiers source 1733	/Organism= Syntheric Construct" /mol_type="tuaxon:32630"	<pre>/note="unnamed protein product; /produkt=Fusionsprotein MBP Cystatin C BMP-2" /codon start=1 /transI table=1</pre>	/protein_id="CAD12160.1" /db_xref="G1:17044833" /trānslation="MXIEEGKLVIWINGDKGYNGLAEVGKKFEKDTGIKVTVEHPDKL EEKPPQVAATGDGPDIIFWAHDRFGGRAGSGLIABITPDKAFONKIYDFWMDANDVNG	KLIAYPIAVBALSLIYNKDLLPNPPKTWEEIPALDKELKAKGKSALMFNLQEPYFTWP LIAADGGYAFKYENGKYDIKOVGVDNAGARAGLTFLVDLIKNKHNNADTDYSIABAAF NKGETAMTINGPWAWSNIDTSKVNYGVTVLPTFKGQPSKPFVGVLSAGINAASPNKEL

1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGCTAAGAGCGCCCTGATGTTCAAC 1980 1921 GAGATCCCGGCGCTGGATGATCAACTGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGCAAAGCGCGCCTGATTCAACTCAACTCAACTACCTCGCCGCGCGTTATGCGTTTCAAC 1980 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTTCAAGGCGGTTATGCGTTCAAG 2040 2041 TATGAAAACGGCAACTTAAAGACGTGGCCGCGGATAACGCTCAAGCGCGCAAAGCG 2100 2101 GGTCTGACCTTCCTGGTTGAAAAACAACACGCGGGGTTAAGCGTTCAAGCGCTGAAAGCG 2100 2101 GGTCTGACCTTCCTGGTTGACTTAAAAAACAAACAACAAGAAAAAAGCGATAACAAAAAGCGATAAC 2160 2101 GGTCTGACCTTCCTGGTTGAAAAAAAAAAAAAAAAAAAA		2401 GAAGCGGTTAATRAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAAG 2460 [2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCCAGACTAATTCGAGCTCG 2640 2641 AACAACAACAACAACAATAACAACAACAACTGGGGAAGGGAAGGATTTCAGAATTC 2700 2641 AACAACAACAACAAATAACAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTCCTCTGTGGCCCAGGCGGCCCTCGAGGCCCGG 2741 2701 GGATCCTCCTCTGTGGCCCAGGCGGCCCTCGAGGCCG 2741 2701 GGATCCTCCTCTGTGGCCCAGCCGCCTCGAGGGAGGC 2741 2701 GGATCCTCCTCTCTGTGGCCCAGCCGCCTCGAGGGAGG 2741	RESULT 7 AX172306 AX172306 LOCUS BETINITION Sequence 5 from Patent W00144467. ACCESSION AX172306 AX1
8 6 8 6 8 6 8 6	8 6 8 6 8 6	6 8 6 8 6 8 6	8 8 8 8 8	RESUL AX172: LOCIUS DEFINS ACCES: VERSIG SOURC: ORG AUTI TIT
### ##################################	1081 GGCAAACGCCTCTCCCCGGGGGTTGGTTAATGCAGGTGGGAGGTTT 1140 1141 CCCGACTGGAAAGCGGGCAGTGAGCCAATTAATGCAGTTAGCTCATTAG 1200 1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCATTAG 1200 1141 CCCGACTGGAAAGCGGCAGTGAGCGCAACGCAATTAATGTCAGTTAGCTCACTCA	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380		1681 GCGCAACTGGCCGACATTATCTTCTGGGCACACGCCTTTGGTGGCTAC 1740 1681 GCGCAACTGGCGATGGCCTGACATTATCTTCTGGGCACACGCTTTGGTGGCTAC 1740 1741 GCTCAATCTGGCGACAACGCTTCGGGCACACGCTTTGTTCTTCTGTGCTTAC 1740 1741 GCTCAATCTGGCTGAATCACCCCGGACAAGCGTTCCAGGACAAGCGTTTT 1800 1741 GCTCAATCTGGCTGAATCACCCGGACAAGCGTTCCAGGACAAGCGTGTT 1800 1801 CCGTTTACCTGGGTGGTTATACACGGCAAAACGTTACAGGACAAGCTGTTT 1860 1801 CCGTTTACCTGGGATGCCGTACACAGGCAAGCTGATTATACAGGGACAAGCTGTTT 1860 1801 CCGTTTACCTGGGATGCCGTACAGAGCGCAAGCTGATTATACAGGAAAACGTGATTGCTTACCTGGCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATAAAAGAAGATCTGCCGAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATAAAAAAACTGCCGAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATAAAAAAACTGCCGAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATAAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATAAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATAAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATAAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATATAAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATATAAAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATATAAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATATAAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATATAAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATATAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGAAAAAACTGCCGAAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGAAAAACCTGCCGAAAAAACTGGCGAAAAAACTGCTGCCGAAAAAACTGCTGCCGAAAAAACTGCTGCCGAAAAAAACTGGCGAAAAAAACTGCCGCCAAAAAAACTGCTGCCGAAAAAACTGCTGCCGAAAAAACTGCTGCCGAAAAAACTGCCGCCAAAAAACTGCCGCCAAAAAACTGCTGCCGAAAAAACTGCCGCCAAAAAAACTGCTGCCGAAAAAACTGCCGCCAAAAAAACTGCTGCCGAAAAAACTGCCGCAAAAAACTGCTGCCGAAAAAACTGCCGCAAAAAACTGCTGCCGAAAAAACTGCTGCCGAAAAAACTGCCGCAAAAAAACTGCCGCAAAAAACTGCTGCCGAAAAAACTGCCGCAAAAAACTGCCGCAAAAAACTGCTGCCGAAAAAACTGCCGCAAAAAAACTGCCGCAAAAAACTGCCGCCAAAAAACTGCCGCAAAAAACTGCCGAAAAACTGCCGCAAAAAACTGCCGCAAAAAAAA

901 901 961 961 1021	1081 CGCAAACCGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1140	1201 1201 1261 1261	1321 1321 1381 1381	1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGGT 1620	1681 GCGCAACTGGCGATGGCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
8 8 8 8 8	8 6 8	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8 6 6	8 6 8	& & & & &	8 8 8	8 8 8 8 8 8
FEATURES source 18101 8101 8101 8101 8101 8101 8101 /organism="synthetic construct" /mol_type="unassigned DNA" /db_xref="taxon:32630" /note="souche JM109 / pMAL - Hs Cdc25C" ONIGIN 82.0%; Score 2705.8; DB 6; Length 8101; Best Local Similarity 99.9%; Pred. No. 0; Matches 2707; Conservative 0; Mismatches 2; Indels 0; Gaps 0;	CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	GIGTATITUAGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	ACCCCCCATCCCCAACCCCCTCCCCCCCCCCCCCCCCC	CCAGCG ACAATC ACAATC ACAATC ATGCCA	TIGCTGTGGAAGCTGCACTGAATGTTCCGGCGTTATTTCTTGATGACCAGGAIGCCA TIGCTGTGGAAGCTGCACTGAATGTTCCGGCGTTATTTCTTGATCTTCTCGACCAGA TTGCTGTGGAAGCTGCACTGCA	TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG	

/note="Plasmid pMAL-c2x"	Query Match 81.8%; Score 2701; DB 6; Length 6648; Best Local Similarity 99.8%; Pred. No. 0; Matches 2704; Conservative 0; Mismatches 5; Indels 0; Gaps 0;	Qy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	Qy 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120	Oy 121 GTGTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCA	Oy 181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCA 240	Oy 241 AACAACTGGGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC 300 [0y 301 ACGCGCTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360	Qy 361 TGGTGGTGTCGATGGTAGAACGAAGCGGGGGCGTCGAAGCCTGTAAAGCGGGGGTGCACAATC 420 Db 361 TGGTGGTGCGATGGTAGAACGAAGCGGGGTCGAAGCGGGGGGGG	Qy 421 TTCTCGCGCAACGCGTCAGTGATCATTAACTATCGCTGGATGACCAGGATGCCA 480 Db 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480	Oy 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGGGTTATTTCTTGATGTCTCTGACCAGA 540	Oy 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGACTGGGGCGTGGAGCATC 600	Qy 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660 LILIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Qy 661 CGCGTCTGCGTCTGGCTGGCTGGCTAATATCTCACTCGCAATCAAT	OY 781 ATGAGGGCATCGTTCCCACTGCGATGCTGGCTACCATCAGATGGCGCTGGGCGCAA 840 Db 781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840	Qy 841 TGCGCGCCATTACCGAGTCCGGGCTTGGTGCGGATATCTCGGTAGTGGGATACG 900 Dh 841 TGCGCGCCATTACCGAGTCCGGGCTTGGTGCGGATATCTCGGTAGTGGGATATCG 900	901 ACGATACCGAAGACAGCTCATGTTATACCCGCCGTTAACCACCATCAAACAGGATTTTC	DD 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC 960 Qy 961 GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020
	OY 2041 TATGAAAACGCCAAGTACGACATTAAAGACGTGGGGGGTGGATAACGCTGGGGCGAAAGCG 2100 	OY 2101 GGTCTGACCTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC 2160	Qy 2161 TCCATCGCAGAGAGCTGCCTTTAATAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 Db 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCGTGG 2220	OY 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	QY 2281 AAGGSTCAACCATCCAAACCGTTGGGGGGGGGGGGGGGGG	OY 2341 CCGAACAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	OY 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	OY 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 DD 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	Qy 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCCAACGCC 2580	Qy 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGGTCG 2640	Oy 2641 AACAACAACAATAACAATAACAACACTCGGGATCGAGGGAAGGATTCAGAATTC 2700	Qy 2701 GGATCCTCT 2709 Db 2701 GGATCCTCT 2709	RESULT 8 AX377531 AX377531 AX377531 AX377531 EFINITION Sequence 8 from Patent WO0212553. ACCESSION AX377531 VERSION AX377531 ACCESSION AX377531	REYMONDS synthetic construct ORGANISM synthetic construct ORGANISM synthetic construct other sequences; artificial sequences.	AUTHORS Rappel,A., Polakowski,T., Pignot,M., Windhab,N., Behrensdorf,H. and Muth,J. TITLE Method for detecting mutations in mucleotide segmences	AL Patent: WO 0212553-A 8 14-FEB-2002; Nanogen Recognomics GmbH (DE) S Location/Qualifiers	<pre>source 16648 /organs="synthetic construct" /mol_type="unassigned DNA" /db_xref="taxon:32630"</pre>

0	RESULT 9 A91965 LOCUS LOCUS DEFINITION Sequence 1 from Patent W09822496. ACCESSION A91965.1 GI:6740811 KEYWORDS Unidentified ORGANISM unidentified ORGANISM unidentified ORGANISM Unidentified ORGANISM Unidentified ORGANISM Unidentified ANTIVIRAL PEPTIDE DERLYATIVES ATTHE ANTIVIRAL PEPTIDE DERLYATIVES JOURNAL PATONICAL PROCHE (CH) FEATURES SOURCE ADDITION OUT WATCH ADDITION OUT WATCH B1.8%; SCOTE 2700; DB 6; Length 7475; BEST Local Similarity 100.0%; Pred. NO. 0; Matches 2700; CORSETVATIVES ON II CCGRORCEAPARCTITCGCGGTATGGCCCGGGAAGGG 60
961 GCCTGCTGGGGCAACCAGCGTGGCACCTTGCTGCACTCTCTCAGGGCCAGGCGGTGA 1020 1021 AGGGCAATCAGCTGTTGCCCGTTCATTGGTGAAAACCACCTGGGCCCCATTA 1080 1021 AGGGCAATCAGCTGTTGCCCGTTCATTGAAAACCACCTGGCGCCCCATTA 1080 1021 AGGGCAATCAGCTGTTGCCCGTTCATTAATGCAGCTGGCCCCCATTA 1080 1031 CGCCAAACCGCTTCTCCCCGCGCGTTGATTCATTAATGCAGCTGGCACCACAGGTTT 1140 1141 CCCCAACTGGTGAACGCGCTTCACTGGTGAAAACAAACCACCTGGCCCCCAATTA 1140 1141 CCCCAACTGGTGAACGCGCGTTGACTGATTAATGCAGCTGGCTCACTCA	

8 6 8 6 8 6 8 6 8 6 8 6 8 8 8

181 CGGGGGAAAAAGTGGAACGGCGATGACTGAATTACATTCCCAACGGCGTGGACCC 241 AACAACTGGGGGGAAAAAGCGGCGATTAAATCTGCGGCCTCCAACTGGGCCTCC 241 AACAACTGGGGGGAAAAAAGCGGCGATTAAATCTGGGGCCTCCAACTGGGCCTCCAACCC 301 ACCGCCCTCCCAATTGTTGCGGGGCTTAAAATCTGGGGCCTCCAATTGGGGCCTCCAATTGGGGGCCTCC 302 AGCGCCCTCCCAATTGTTGCGGGGCTTAAAATCTGGGGCCTCAATTGGGGCGTGCAATTGGGGGGGG
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
Column C

QY 2401 GAAGCGGTTAATAAAGACCAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 DD 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 QY 2461 TTGGCGAAAGATCCACGTATGCCGCCACCATGGAAACGCCCAGAAAGGTGAAATCATG 2520 QY 2521 TTGGCGAAAGATCCACGTATTGCCGCCACTGGAAAACGCCCAGAAAGGTGAAATCATG 2520 QY 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCTACTGCGGTGATCAACGCC 2580 DD 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCTACTGCGGTGATCAACGCC 2580 QY 2521 CCGAACATCCGCAGATGTCCGCTTTCTGGTATGCCGTACTGCGGTGATCAACGCC 2580 QY 2581 GCCACGGTCCAGATGTCCATTGTCGATGCCCTGAAAGACGCCGAGACTAATTCGAGTTCG 2640 DD 2581 GCCACGGTCCAGATGTCGATGAACCCTGAAAGACCCTGAAAGACCCTGAAAGACCCTGAAAGAACAACAACAACAAAAAAAA	RESULT 11 AR207294 AR	Query Match 81.8%; Score 2700; DB 6; Length 7475; Best Local Similarity 100.0%; Pred. No. 0; Indels 0; Gaps 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0; CCGACCCATCGAATGGGCAAAACCTTTCGCGGTATGGCATGATGGCCCCGGAAGAG 0 CCGACACCATCGAATGGGAAACCTTTCGCGGTATGGCATGATGCCCCGGAAGAG 0 CGGACACCATCGAATGGAAACCTTTCGCGGTATGGCATGATGCGCCCGGAAGAG 0 CGGACACCTTTCAGGGTGAATGTGAAACCTTATACGATGTGCCAGAGATATGCCG 120 CGCACACTTATCAGGGTGAATGTGAAACCTTATACGATGTGCCAGAGTATGCCG 120 CGCACATTCAGGGTGAATGTGAAACCTATACGTTATACGATGCGCAGAGTATGCCG 120 CGCACATTCAGGGTGAATGTGAAACCTATACGTTATACGATGTCGCAGAGTATGCCG 120 CGCACATTCAGGGTGAATGTGAAACCTATACGTTATACGATGCCCAGAGTATGCCG 120 CGCACATTCAGGGTGAATGTGAAACCGTTATACGATCGCCAGAGTATGCCG 120 CGCACATTATCAGGCTGAAACCGTTATACGGCCAGCCAGC
1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCCACTCCCGTTCTGCATAACGGTT 1380 1381 CTGGCAAATATCTCGAATAATGTTTTTTGCGCTCGTATAATGTGTGGA 1400 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATAATCATCGCTCGTATAATGTGTGGA 1400 1411 ATTGTGGGCGATAACAATTTCACAAATATCAACAATAATCACGCTCGTATAATGTGTGGA 1500 1411 ATTGTGGGCGATAAAATTTCACAAAGGCAAAAAAGCCGATTAAGGTTTTTCACGA 1500 1501 GCACTTCACCAACAAGGAACAGCCAGTCCGTTTAAGGTGTTTTCACGA 1500 1501 GCACTTCACCAACAAGGACAAAAACGCCAGTCCGTTAAACTGGTAATCTGG 1500 1501 ATTAACGGCGATAAAAGGCTATAAGAAACTGGAAAAACTGAAAAACTGAAAAACTGAAAAACTGAAAAACTGAAAAACTGAAAAACTGAAAAAACTGAAAAAACTGAAAAAACTGAAAAAACTGAAAAAACTGAAAAAACTGAAAAAATTCGAGAAAAAAATTCGACAAAAAAATTCAAAAAAACTGAAAAAACTGAAAAAATTCGAGAAAAAAATTCGAGAAAAAATTCGAGAAAAAATTCGAGAAAAAATTCGAAAAAAAA	ACCGGAATTAAAGTCA.CCGTTGAGCATCCGGATAAA.CTGGAAGAAATTCCCACAGGTT 168 ACCGGAATTAAAGTCA.CCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 168 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCCACAGGTT 168 GCGCAACTGGCCGATGGCCCTGACATTATCTTCTGGGCACACGGCTTTGGTGGCTGC 174 GCGCAACTGGCCTGTTGGCTGAAATCATCCCCGGACAAGCGTTCCAGGACAGGCTGTT 180 CCGTTAACCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAGGCTGTT 180 CCGTTTAACCTGGCCTGTTGGCTAAATCACCCCGGACAAAGCGTTCCAGGACAGCTGTT 180 CCGTTTAACCTGGGAAATCACCCCGGACAAGCGTTCCAGGACAGCTGTT 186 CCGTTTAACCTGGGAAATCACTAAAAAACGCGCAAAAACCTTAACCCGATCGCTGTT 186 CCGTTTAACCTGGGAAATCACAAAAAACGCCAAAAACCTGGCAATTGCTTAACCCGATCGCTGTT 186 CCGTTTAACCTGGGAATGCCGTACGTTACAAAGCTGCTGATTGCTTAACCCGATCGCTGTT 186 GAAGCGTTATCGCTGATTATAACAAAGATCTGCTGCAAAAACCTGGGAA 192 [1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCTAAGGCGCCTGATGTTCAAC 1980 1921 GAGATCCCGGCGTGGATAAAGAACTGAAAGCGAAAGCTAAGCGCGCTGTTCAAC 1980 1921 GAGATCCCGGCTGGATAAAGAACTGAAAGCGCAAAGCGCGCTTCAAC 1980 1981 CTGCAAGAACCGTACTTCACCTGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAC 2040 1981 CTGCAAGAACCGTACTTCACCTGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAC 2040 1981 CTGCAAGAACCGTACTTCACCTGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAC 2040 1082 TATGAAAACGGCAAGTACGACTTAAAACGTGGGCGCTGATAACGCTGGCGCGAAAGCC 2100 1084 TATGAAAACGGCAAGTACGACTTAAAAACAAAACAAACACTGAATAACGCTGGCGCGAAAGCC 2100 1084 TATGAAAACGGCAAGTACGACTTAAAAACAAACAAAACA

1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGGTAAACTGGTAATCTGG 1560 	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTGGGTAAGAAATTCGAGAAAGAT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCAGGATAAACTGGAAQAGAAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCGTAC 1740	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCGATCGCTGTT 1860	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 	1921 GAGATCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCGTTCAAG 2040	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAACACATGAATGCAGACACCGATTAC 2160	2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220	2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGAACGGTACTGCCGACCTTC 2280	2281 AAGGGTCAACCATCCAAACCGTTGGCGTGCTGAGCGCAGTATTAACGCCGCCAGT 2340 [2341 CCGAACAAGGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 	2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 	2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTACTGCGGTGATCAACGCC 2580 [
% 90	8 %	& A	S S	& 8	& g	λο q	S a	දි යි	% a	S d	oy G	oy B	ζ Oγ	P &	Qy Db	yo da	8 8 8
			•														
421 ITCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTGGATGACCAGGATGCCA 480 421	TIGCIGIGGAAGTGCTGCACTAATGTTCCGCGTTATTCTTGATGTCTCACCAGA	CACCCATCAACAGTATTATTTTCTCCCATGAACAGGTACGGCACTGGGCGTCGACCATC [TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGGCCGCCCATTAAGTTCTCTTCGG		acaaaccatgcaaatgctga acaaaccatgcaaatgctga	/ 781 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840		ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC	961 GCCTGCTGGGGGAAACCAGCGTGGACCTTGCTGCAACTCTCTCAGGGCCAGGCGATGA 1020	AACCACCCTGGCGCCCAATA	1081 CGCAAACCGCCTCTCCCCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT 1140 1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGCAC		ATGCTTCTGGCG	rcgtaaatcactgcataattcg rcgtaaatcactgcataattcg	21 IGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 138	CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 144	ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 150

	661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720	181 HCAGGGCATCGTTCCCACTGCGATGCTGCTACGATCAGATGGCGTTGGGCCCAA 840 841 TGCGCGCATTACCGGGTGCGGCTGGTGGGGATATCTCGGTAGTGGGATACG 900 841 TGCGCGCCATTACCGGGTCGGGGTGGGGGTTGGTGGGATATCTCGGTAGTGGGATACG 900 841 TGCGCGCCATTACCGGGTGCGGGTGGTGGTGGGGATATCTCGGTAGTGGGATACG 900 901 ACGATACCGAAGACAGTCATGTTATATCCCGCCGTTAACCACATCAAACAGGATTTTC 960 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACATCAAACAGGATTTTC 960 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACATCAAACAGGATTTTC 960 901 GCGTGGCGGGAAACCAGTTATATATCCCGCCGTTAACCACACTCAAACAGGATTTTC 960	961 GCTGCTGCTGGGCAACGCGGGCGCTTGCTGCAACTCTCTCAGGCCAGGGGGTGA 1020 1021 AGGGCAATCAGCTGTTGCCCGTCTCTGGTGAAAAACAACACCCTGGCGCCCAATA 1080 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAACAACACCCTGGCGCCCAATA 1080 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAACACACCTGGCGCCCAATA 1080	1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1140		1261 TCAGGCCCCATCGGAAGCTGTGGTGTGTGTGCCATAATCCCATAATCCTGCATAATCC 1320 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGAATCACTGCATAATTCG 1320 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACTGTT 1380 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTTT	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 [GCACTTCACCAACAAGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 	1561 ATTAACGGCGATAAAGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAGAT 1620
90 A	8 8 8 8	8 8 8 8 8	a o a	2 4 5 6	è 8 6	8686	\$ 9 \$ 90 \$ \$ \$ \$ \$	୍ଦ ଶ	S P S
	RESULT 12 AX377532 LOCUS LOCUS LOCUS DEFINITION Sequence 9 from Patent W0021253. ACCESSION AX377532 RESUMD	v	; Length 9191;		Db 61 GTCAATTCAGGGTGAATGTGAAACCAGTAACGATGTCGCAGAGTATGCCG 120 Qy 121 GTGTCTTATCAGACGTTTCCCGCGTGAACCAGGCCAGCCA	Qy 181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 Db 181 CGCGGAAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 Qy 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGCCTGC	301 ACGCCCCTCCCAAATTGTCCCGCCCCTTAAATCTCCCCCCCC	Db 361 TGGTGGTGTGGTAGAACGAAGGGGGTCGAAAGCGGGGGGGG	481 TTGCTGTGGAAGCTGCCTGACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA

ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680

1621

유

8

ઠે

유

8 6 8

ò

셤

ò

硆

ઠે

g

8 6 8 6 8 6

중 음

8 6

8 6 8 6

용

ò

용

8 8

8 8

à

ઠે

us-09-765-555b-16.rge

```
/producie = martose binding protein.
/protein id="martose binding protein."
/db_xref="G1:3983122"
/db_xref="G1:398312"
/dc_xref="G1:398312"
/
                                                                      AF097412 6724 bp DNA circular SYN 28-JAN-2002
Expression vector pMBP-parallell, complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RADQLGASVVVSMVERSGVEACKAAVHNLLAQRVSGLI INYPLDDQDAIAVEAACTNV
PALFLDVSDQTPINGI I FSHEDGTRLGVEH.VALGHQQIALLAGPLSSVSARLRLAGW
HKYLTRNQI QP I AEREGMSAMSGPQTMQMLNBGI VPTAMLVANDQMALGAMRAITE
SGLRVGADI SVVGYDDTEDSSCY I PPLITI KQDFRLLGGTSVDRLLGLSQGQAVKGNQ
LLPVSLVKRKTTLAPNTQTASPRALADSLMQLARQVSRLESGQ"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        translation="MAELNYIPNRVAQQLAGKQSLLIGVATSSLALHAPSQIVAAIKS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 (bases 1 to 6724)
Sheffield, D., Garrard, S.M. and Derewenda, Z.S.
Direct Submission
Submitted (05-007-1998) Molecular Physiology and Biological
Bhysics, University of Virginia, 4215 Jordan Hall, 1300 Jefferson
Park Avenue, Charlottesville, Virginia 22908, USA
Location/Qualifiers
1. 6724
/organism="Expression vector pMBP-parallell"
/Mol_type="cther DNA"
/db_rref="taxon:84479"
                                                                                                                                                                                                                                              Expression vector pMBP-parallell to the requences; artificial sequences; vectors.

1 (base) to 6724)
Sheffield, P., Garrard, S. and Derewenda, Z. Overcoming expression and purification problems of RhoGDI using a family of 'parallel' expression vectors Protein Expr. Purif. 15 (1), 34-39 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            etch virus protease cleavage site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product="maltose binding protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1453. .1481

Inote="tac; inducible promoter"

| 528. .2994

| gene="malls"

| codon start=1

| transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note="protein spacer region"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="lacig"
/codon start=1
/rransl_table=11
/product=1lac repressor"
/protein id="NAG83812.1"
/db_xref="G1:3983121"
                                                                                                                                                                                                                      Expression vector pMBP-parallell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="Tobacco e
2711. .2810
/gene="malE"
                                                                                                                                                           GI:3983120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="laciq"
204. .1163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2633. .2688
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2689. .2709
/gene="malE"
                                                                                                                                                           AF097412.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10024467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      promoter
                                                                                           DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                              ORGANISM
         RESULT 13
AF097412
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                              1860
                                                                                                                                                                                                                                                                                                                                                               1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2220
                                                                                                                                                                                                                                                                                                                                                                                        1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCGTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGGCGCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2161 TCCATCGCAGAAGCTGCCTTTAATAAAGCGAAACAGCGATGACCATCAACGGCCCGGGG 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTCATCAACGCC 2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2700
                                                                                                                                                  GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                       CGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2221 GCATGGTCCAACATCGACAGCAAGAGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                         GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2581 GCCAGCGGTCGTCAGACTCTCGATGAAGACCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                     CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2281 AAGGGTCAACCATCCATCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGAACATCCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8641 AACAACAACAATAACAATAACAACACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGATCC 2706
                                                          1681
                                                                                                                                                                           1741
                                                                                                                                                                                                                                                                                            1801
                                                                                                                                                                                                                                                                                                                                                      1861
                                                                                                                 1741
                                                                                                                                                                                                                                     1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2281
1691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2701
```

```
1680
                                                                                                                                                                                                                                                                                                                                                      1200
                                                                                                                                                                                                                                                                                                                                                                             1260
                                                                                                                                                                                                                                                                                                                                                                                                      1260
                                                                                                                                                                                                                                                                                                                                                                                                                              1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1800
                                                                                                                                                                                  1020
                                                                                                                                                                                                                                1080
                                                                                                                                                                                                                                                        1080
                                                                                                                                                                                                                                                                                                       1140
                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1860
                                                                                                                                                                                                         1020
                                                                                                                                   960
                                                                                                                                                          960
               780
                                     840
                                                            840
                                                                                     900
                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCACTTCACCAACAAGGACCATAGAATATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GOGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGTITACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                    TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGTATCTCGGTAGTGGGATACG
                                                                                                                                               GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                  AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                             GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCGATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGCCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGGCTTTGGTGGCTAC
                CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                   recececcarraceaagreceaecrececrisesreceararerestracearace
                                                                                                                                  ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                  GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAAGGCGGTGA
                                                                                                                                                                                                                                                                                CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                              GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGGCCCCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                     rcasscasccarcssaascrorssrarsscristscasscristaaarcacriscaraarrcs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCEGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1801
                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                                                                                                                                              1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1741
                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1501
                                      781
                                                             781
                                                                                     841
                                                                                                             841
                                                                                                                                   901
                                                                                                                                                                                  961
                                                                                                                                                                                                          961
               721
                                                                                                                                                                                                                                                                                                                                               Ω
                                                                                                                                                                                                                                                                                                                                                                                             염장
                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            рp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                           S 8
                                                                                                                                                                            8 8
                                                                                                                                                                                                                          상
음
                                                                                                                                                                                                                                                                           8 8 6
6
                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                    Š
                                                      g
                                                                             8
                                                                                                        g
                                                                                            /transl_table=11
/product="beta-lactamase"
/product="beta-lactamase"
/product="beta-lactamase"
/product="de="AAC831814.1"
/db_xref="d1:383123"
/translation="MSIQHFRVALIPPFAAFCLPVFAHPETLVKVKDAEDQLGARVGY
IELDLANSGKILESFRPERSPWMSTFKVLLCGAVLSKVDAG0SQLGRRIHYSQNDLVB
YSPVTEKHLTDGMTVRELCAA1TMSDNTAANLLLTTIGGPKELTAFLHNMGDHVTRL
DRWEPELNBA PUNDERTTYRPWAATTLRKLITGELLTLASRQOLIDWMEADKVRAGPL
LRSALPAGWFIAADKSGAGGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIA
                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                            AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rrecrigregaagcreccrecataarerreceseerrarrerrearerereaceaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                              CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACATC
                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                              6724;
                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                              12;
                                                                                                                                                                                                                                                                      э;
                                                                                                                                                                                                                                              80
     Bite"
                                                                                                                                                                                                                                             Score 2676.2;
Pred. No. 0;
                                                                                                                                                                                                                                                                      0; Mismatches
   cloning
/note="multiple c. 4356 / 4356 / 4356 / 4356 / 4356 / 4356 / 4356 / 9ene="bla"
                                                                                     /codon_start=1
/transl_table=
                                                                                                                                                                                                                                             81.1%;
99.9%;
                                                                                                                                                                                                          EIGASLIKHW
                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                      Best Local Similarity
Matches 2678; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                              -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                              Match
                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                     promoter
                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                gene
                                                             SGO
                                                                                                                                                                                                                                              Query
                                                                                                                                                                                                                     ORIGIN
```

중 음

ò

8 S

g

8 6 8 6

ර සි ර

g

8 8 8

8 8 8 8

성 음

g ઠે ö

120

9

180

240 240 300 300 360 360 420 480 540 540 600 009 099 999 720 720 780 780 840

420 480

1801

8

1861 1921

셤

1861

ò

1981 2041 2041 2101

셤 ò გ 2161

8 6

2221

රු සි

1981

g ò 8 8

ò

840 900

```
protein
                                                                                                                                                                                                                                                                      GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                          AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                  421 TICTCGCGCAACGCGTCAGGGCTGAITAACTAICCGCTGGAIGACCAGGAIGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                           CGCGGGAAAAAGTGGAGGCGATGCCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGCCCCTCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGTATTCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIGCTGTGGAAAGCTGCCTGCACTAATGTTCCGGCGTTATTTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                           Gaps
     WO 0206306-A 194 24-JAN-2002;
IA & UPDOHIN COMPANY (US)
Location/Qualifiers
1. .6806
/organism="unidentified"
/mol_type="unassigned DNA"
/db_xref="transpressioned DNA"
/note="fluston protein comprising a maltose binding p
                                                                                                                                                              Length 6806;
                                                                                                                                                                                          ö
                                                                                                                                                                                        Indels
                                                                                                                                                             DB 6;
                                                                                                                                                                                        7
                                                                                                                                                          79.9%; Score 2636.8; llarity 99.9%; Pred. No. 0; Conservative 0; Mismatches
                                                                                                                                                                        sal Similarity
2638; Conserv
        Patent: WO
PHARMACIA
                                                                                                                                                          Query Match
Best Local S:
Matches 2638
                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                  source
       JOURNAL
                                  FEATURES
                                                                                                                                ORIGIN
                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                   8
8
                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                              8 6
                                                                                                                                                                                                                                                                                                                                                                                                                           ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      원
장
임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                1980
                                                                                                                                           2040
                                                                                                                                                                                                 2100
                                                                                                                                                                                                                         2100
                                                                                                                                                                                                                                                      2160
                                                                                                                                                                                                                                                                                  2160
                                                                                                                                                                                                                                                                                                           2220
                                                                                                                                                                                                                                                                                                                                     2220
                                                                                                                                                                                                                                                                                                                                                                                                                      2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2400
CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
                                  1920
                                                                                                                                                                                                                                                                                                                                                           GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                                           2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2640
                         1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                      CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                crecaagaacceractreaccreececrearrecreereaceaegerrarecereae
                                                                                                                                                                                                                  TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCCGAAAGCG
                                                                                                                                                                                                                                                2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAAACACACATGAATGCAGACACCCGATTAC
                                                                                                                                                                                                                                                                                                      TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                           2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                           TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                      2221 GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                               AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                  2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGGGGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAAGGTGAAATGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461 TTGGCGAAAGATCCACGTATTGCCGCCACAATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGA 2681
```

2281

2341

2461

8 6

2401

유 ò

2641

용

2581

6 6 6 6 6

2581

2521 2521

2281

ò g ò g

1981 CTGCAAGAACGCTACACCTGGCCGCTGATTGCTGACGGGGGTTATGGCGTTCAAG 2040 1981 CTGCAAGAACGCTACACCTGGCCGCTGATTGCTCTGACGGGGTTATGCTCAAG CGTGGCGGGAAACGC 2100 2041 TATGAAACGCAAGTACTGCTCAATTGCTCTGACGCGGGAAACGC 2100 2041 TATGAAACGCAAGTACTGCTCAATTGCTGATTACACCTGCTGGCGGGAAACGC 2100 2041 TATGAAACGCAAGTACTCACACTCAATTACAATTACACTCGCGGGAAACGC 2100 2041 TATGAAACGCAAGTTACACACTCAATTACAACACTCAATTACAATT	RESULT 15 AF031088 LOCUS LOCUS Shuttle vector pMAL-pIII, complete sequence. ACCESSION AF031088.1 GI:2623821 KEYWORDS SOURCE SOURCE SOURCE AUTHORS SULTIE vector pMAL-pIII OCHAR sequences; artificial sequences; vectors. 1 (bases 1 to 6706) AUTHORS ZWICK, B. Bonnycastle, L.L., Noren, K.A., Venturini, S., Leong, E., Barbas, C.F. III, Noren, C.J. and Scott, J.K. Barbas, C.F. III, Noren, C.J. TITLE PERBING PUBMED P
### ##################################	1561 ATTAACGGCGATAAAGGCTATAACGGTCTGGTGAAGTTCGGTAAGAATTCGAGAAAGAT

```
120
                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                            9
                                                                                                                                                                                     GTCAATTCAGGGTGGTGGAATGTGAAACCAGTAATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                              121 GIGICCTTIATCAGACCGTITCCCGGCGTGAACCAGGCCAGCCACGTITCTGCGGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACTGGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661 GGGGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCCAATTCAGCCGGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                          CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCTCGCCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGCCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481 Tricrioridea Ageria certa certa Ariente con contra con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAGGGCATCGTTCCCACTGCGTTGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781 ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                            903
                                                           Length 6706;
                                                                                                            Indels
                                                                                                            5.
                                                           DB 12;
                                                                                                          0; Mismatches
                                                           Score 2631;
Pred. No. 0;
                                                                                                          Conservative
                                                                                  Similarity
                                                   Query Match
Best Local Simi:
Matches 2704;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                        Н
                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                               g
                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                            Б
                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                          8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                            / Droduct = "lac "repressor"
/ product = "lac "aAB86558.1"
/ brotein id="aAB86558.1"
/ brotein id="aAB86558.1"
/ brotein id="aAB86558.1"
/ translation="MKUVTLYDYBYAGVSYOTVSRVVNQASHVSAKTREKVBAAMAE
LINYIPNRVAQQLAGKQSLLIGVATSSLALHAPSQIVAAIKSRADQLGASVVVSMVBRS
GVBACKAAVHNILAQRVSGLIINYPLDDQDAIAVBAACTWPALFLDVSDOTPINSI
FSHEDGTRLGVBHLVALGHQQIALLAGPLSSVSARIRLAGHWKYLTRNQIQPIARRE
DWSAMSGFQCTWQMLNSGIVPTAMLVANDQMALGAMRAITBSGLRVGADISVVGYDDT
EDSSCYIPPLTTIKQDFRLLGGTSVDRLLQUSQGAVKGNQLLPVSLVKRKTTLAPNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KAKGKSALMFNLQEPYFTWPLIAADGGYAFKYENGKYDIKDVGYDNAGAKAGITFLUD
LIKNKHMNADTDYSIAEAFNKGETAMTINGPWAMSNIDTSKVNYGVTVLPTFKGQPS
KPYGVLSGAINAASPNKELARKETERTLINGPREANTHUDEGLEAVNKDKPLGAVALKSYEEELAK
DPRIAATMENAQKEENPUTPQMSAFWYAVTTAVINAASGRQTVDEALKDAGTNSSSN
NNNNNNNNLGIEGRISEFGSSRVDLQASLALAVVLQRRDWENPGYTQLNRLAAHPPF
ASWRNSEEARTDRPSGQLRSLNGEWQLGCFGG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /trānslation="MKKLLFAIPLVVPFYSHSADMKIEEGKLVIWINGDKGYNGLAEV
GKKFEKDTGIKVTVEHPDKLEEKFPQVAATGDGPDIIFWAHDRFGGYAQSGLLAEITP
DKAFQDKLYPFTWDAVRYNGKLIAYPIAVEALSLIYNKDLLPNPPKTWEEIPALDKEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /translation="MSIQHPRVALIPPPAAPCLPVFAHPETLVKVKDAEDQLGARVGY
IELDLNSGKLLESPRPERSPMMSTFKVLLGGAVLSRVDAGGEQLGRRIHYSQNDLVB
YSPVTEKHLTDGMTVRELGSAAITMSDNTAANLLTTIGGPRELTAFHNMGDHVTRL
DRWEPELNEAIPNDESTTYMPVAMYTTLRKLITGELLTLASRQCIDWMESDKYGGPL
LRSALPAGWFIADKSGAGERGSRGIIAALGPGKPSRIVVIYTTGSQATWDERNRQIA
                         /note="derived from commercially available vector pMal-p2 (New England Biolabs)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1582. .2973
/gene="malE-lacza fusion"
/product="maltose binding protein-lacz alpha peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product="mailtose binding protein-lacz alpha peptide
fusion protein precursor"
/protein_id="AAB86559.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to include phage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note="R-plasmid ampicillin resistance gene" 1478. .4338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'note="M13 secretion signal sequence"
                                                                                                                                                                                                                                              note="transcriptional repressor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4381. .4893
/standard_name="M13 origin (+ -)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          product="RTEM-1 beta-lactamase"
protein_id="AAB86560.1"
db_xreft="G1:2623824"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="E. coli gene fusion"
1528. 2976
/gene="malE-lacZa fusion"
/note="MBP-lacZa; MBP modified t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QTASPRALADSLMQLARQVSRLESGQ"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="Ptac promoter"
1528. .2976
/gene="malE-lacZa fusion"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1528. .1581
/gene="malE-lac2a fusion"
db xref="taxon:69327"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  db_xref="GI:2623823"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="penicillinase"
/codon_start=1
/transl_table=11
                                                                                                                       'note="E. coli gene"
                                                                                                                                                                                                                                                                                                 table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         fusion protein"
                                                                                                                                                                                                                                                                          codon_start=1
transl_table=:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                codon start=1
transI table=
                                                                                                                                                             /gene="lacI"
81. 1153
                                                                                                                                                                                            ii. .1163
gene="laci"
                                                                                               gene="lac1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1406. .1433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3478. .4338
/gene="bla"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EIGASLIKHW"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rep_origin
                                                                                                                                              promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
```

C 25 545 16.5 648 7 CK394349 CK394349 hggada2D0 C 26 540.2 16.4 569 1 AL039077 AL039077 D AL039077 D C 27 534.4 16.2 644 6 CB862524 AL04290 AL04290 D C 28 534 16.2 740 1 AL048427 AL048427 D KF28586H AL048427 D KF28586H AL048427 D KF28986H AL048427 D KF28986H AL048427 D KF28986H AL04890 D KF28986H AL04890 D KF28986H C 29 529 16.0 740 1 AL04890 D KF28990 D KF289434 C 29 529 16.0 720 6 CA881974 CA881974 K0994C10 C 23 519.4 15.7 521 6 CA89032 D C CA881974 K0994C10 C 23 510.2 15.6 607 6 CA886082 CCA880032 B B D L	ALIGNMENTS RESULT 1 RO751936	DEFINITION EST632499 DSCT Colletotrichum trifolii cDNA clone pDSCT8-67, mRNA accession EST632499 DSCT Colletotrichum trifolii cDNA clone pDSCT8-67, mRNA sequence. ACCESSION BO751936. BO751936.1 GI:21907341 KEYWORDS EST. COLletotrichum trifolii ORGANISM Colletotrichum trifolii COLletotrichum trifolii SOUNCE COLletotrichum trifolii SOUNCE COLletotrichum trifolii BUAATYOCE: PHUNG: Accomycota; Pezizomycotina; Sordariomycetes; SOUTGARIOMYCETES incertae sedis; Phyllachorales; Phyllachoraceae; mitosporic Phyllachoraceae; Colletotrichum. SOTGARIOMYCETES INCERTACHORACE COLLETOTRICHUM. AUTHORS Samac, D.A., Dickman, Town, C.D., Van Aken, S., Utterback, T., Cheung, F. and Fraser, C.M. TITLE TITLE EST9 from mycelia of Colletotrichum trifolii race I	COMMENT Other ESTS: EST632498 CONTACT: Deborah A. Samac Department of Plant Pathology University of Minnesota 495 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108, USA Tel: 612 625 1243	Fax: 651 649 5058 Email: debbys@puccini.crl.umn.edu TIGR sequence name: MTSAH67TV More information is available at: www.medicago.org www.medicago.org Seq primer: (gtA AtA CgA CtC AtA ggg C). Location/Qualifiers Location/Qualifiers 1 . 794	/tiskue_Type="myoeila" /dev stage="Young, actively growing myoelia (3 days after inoculation) grown in liquid culture (cutin minimal medium containing 2 \$fglucose)." /lab host="DH5alpha" /clone_lib="DSCT" /note="Vector: pBluescript SK+; Site_l: EcoRI; Site_2: EcoRI; isolate: 2 Sp2; cDNA was prepared from polyA-enriched RNA The CDNA was ligated into Lambda gtll from Stratagene and packaged using Gigapack packaging extracts. An aliquot of the amplified library was used to transduce
Copyright (c) 1993 - 2005 Compugen Ltd. OM nucleic search, using sw model Run on: August 2, 2005, 10:29:49; Search time 6743.2 Seconds (without alignments) 18627.964 Million cell updates/sec Title: US-09-765-5558-15 Perfect score: 3300 Sequence: 1 ccgacaccatcgaatggtgcacgacgttccggactacgct 3300 Scoring table: IDENTITY NUC Gapop 10.0, Gapext 1.0 Searched: 34239544 seqs, 19032134700 residues Total number of hits satisfying chosen parameters: 68479088	Minimum DB seq length: 0 Maximum DB seq length: 2000000000 Post-processing: Minimum Match 0* Maximum Match 100* Listing first 45 summaries	stl:*	\$ Query Score Match Length DB ID 778 23.6 794 5 BQ751936 BQ751936 BQ751936	2 8 4 9 9 7 8 8 4 9 8 5	586.4 17.9 608 B ANDBUO94 ANDBUO94 586.4 17.9 608 B ANDBUO94 ANDBUO94 586.4 17.9 601 1 ANDS94538 ANDS94538 579 17.5 579 1 ALD643868 ALD643868 ALD643868 570 17.3 782 7 CK394246 CK394246 562 17.2 774 1 ALD45337 CK394246 ALD45337 563.2 17.1 585 9 GL658017 CL658017 CL658017 562.6 17.0 723 1 ALD453416 ALD45341 ALD45341 546.8 16.6 753 1 ALD45341 ALD45341 ALD45341 546.8 16.5 547 6 CA895956 CA895956

```
mRNA sequence
                 CK394523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     207
                                                                                                                                                                                                                                                                                                                                                                                                                                      779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              267
                                                                                                                                                                                                                                                                                                                                                                                                                87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          507
                                                          ORGANISM
              ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                         TITLE
JOURNAL
COMMENT
                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
E. coli Y1090 and phage DNA was purified from a liquid lysate. The cDNA inserts were gel purified after EcoRI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DHSalpha which were plated onto medium with X-gal for selection of recombinants."
                                                                                                                ö
                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                               122
                                                                                                                                                                                                    120
                                                                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                         362
                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                   422
                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                     62
                                                                                                                                                         9
                                                                                                                                                                                         CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                              CAACTGGCGGCGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                       GACACTTTCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGT
                                                                                                                                                                             CAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                       CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                            CAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                        GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                        GCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                  GIGGIGICGAIGGIAGAACGAAGCGCCGICGAAGCCIGIAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                        GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACTTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 crccccaacccarcagragecrarcarrancerrancecragargaccarrancecarr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGTCTGCGTCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGTCTGCGTCTGGCTGGCTGGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                               ö
                                                                                        Length 794;
                                                                                       Score 778; DB 5; Length 79
Pred. No. 4.9e-219;
0; Mismatches 10; Indels
                                                                                        23.6%;
                                                                                    7 Match
Local Similarity 98.7.
nes 784; Conservative
                                                                                                                                                                             63
                                                                                                                                                                                                                       123
                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                  183
                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                            243
                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             783
                                                                                                                                                                                                                                                                                                                                                        303
                                                                                                                                                                                                                                                                                                                                                                                                  363
                                                                                                                                                                                                                                                                                                                                                                                                                                             423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 2
CK394523/c
LOCUS
DEFINITION
                                                                                                             Matches
                                                                                        Query
                                                                                                                                                셤
                                                                                                                                                                           ò
                                                                                                                                                                                            요
                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

CK394523 779 bp mRNA linear EST 30-DEC-2003 hggada4D08 Gland Cell Amplified cDNA Library Heterodera glycines

```
Heterodera glycines

Heterodera glycines

Heterodera glycines

Heterodera glycines

Bukaryota; Medazoa; Nematoda; Chromadorea; Tylenchida; Tylenchina;

Tylenchoidea; Heteroderidae; Heteroderinae; Heterodera.

I (bases 1 to 779)

S Wang,X., Allen,R., Gao,B., Goellner,M., Maier,T., Baum,T.,

Hussey,R. and Davis,E.

Submission: Wang, Allen, Gao, Goellner, Maier, Baum, Hussey, Davis

Unpublished (2003)

Conteat: Tom Maier

Department of Plant Pathology, Baum Lab

Iowa State University

351 Bessey Hall, Ames, IA 50011, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA Library, single pass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATGAAGACGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAATC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAACGCGGGAAAAGTGGAAGCGCGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    719 GTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAAACGCGGGAAAAAAGTGGAAGCGGCGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          539 ATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTAGAACGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        479 GGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGGGTCAGTGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        659 GCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                327 ATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTCGATGGTAGAACGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ccagraacerraracearercecagaerareccegrercrerrarcagacerrrenecec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               359 Griccio de Contration de la contrati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATGAAGACGGTACGCGACTGGGGCGTCGCATCTGGCTTGGGTCACCAGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1...779.
/ organism="Heterodera glycines"
/ organism="Heterodera glycines"
/ db_xref="teaxon:51029"
/ cell_type="gland"
/ dev_grage="mixed parasitic juvenile"
/ clone lib="Gland Cell Amplified cDNA Library"
/ note="Organ: gland cell; Vector: pSportII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   779;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 23.4%; Score 770.6; DB 7; Length Best Local Similarity 99.4%; Pred. No. 7.6e-217; Matches 773; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Amplified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: trmaier@iastate.edu
Heterodera glycines Gland Cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
CK394523.1 GI:40389794
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tel: 515-294-8854
Fax: 515-294-9420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

m

ö

Gaps ö 120

504 9

180

564

240 684 300 744 360 804 420 864 480 924 540 984 9

624

a

ઠે 용 ઠે 음

ઠે

ઠે

원

```
BQ751655 T93 bp mRNA linear EST 18-JUL-2002 EST612218 DSCT Colletotrichum trifolii cDNA clone pDSCT6-59, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Colletotrichum trifolii
Colletotrichum trifolii
Colletotrichum trifolii
Colletotrichum trifolii
Colletotrichum trifolii
Sukaryote, Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes incertae sedis; Phyllachorales; Phyllachoraceae;
mitosporic Phyllachoraceae; Colletotrichum.

1 (bases 1 to 793)
Samac, D. A., Dickman, M., Town, C.D., Van Aken, S., Utterback, T.,
Cheung, F. and Fraser, C.M.
ESTS from mycelia of Colletotrichum trifolii race 1
Unpublished (2002)
                                                                                                                            121 ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTTTCT
                                                                                                                                                                                                                                                                                               181 CCCATGAAGACGGTACGCGACTGGGCGTGGACCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421 TGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            925 ATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541 ATATCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGGAAACCAGCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          985 ACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1045 CACTGGTGAAAAGAAAACCACCCTGGCGCCCCAATACGCAAAACCGCCTCTCCCCGCGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661 cacregreaaagaaaaacacceresceccaaracscaaaccscerereceser
                                                      ATAAATATCTCACTCGCAATCAAATTCAGCGGATAGCGGAACGGGAAGGCGACTGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                                                                                                                                    ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGGACACCCATCAACAGTATTATTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1105 TGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAA 1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
Mismatches
.
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:21907060
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BQ751655
BQ751655.1
768;
                                                                                                            445
                                                                                                                                                                                    505
                                                                                                                                                                                                                                                                                                                                                                                                              685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                    385
                                                                                                                                               61
                                                                                                                                                                                                                                                            565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 4
BQ751655
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                        g
                                                                                                                                                                                  ò
                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                    8
                                                              g
                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="Vector: pQB-30NAST-attB (AV386205); Site_1: SalI; Site_2: NotI; About 1 week after bolting, CDNA synthesis using SuperscriptTM-system (Invitrogen) with an oligo (dT)-primer containing NotI restriction site and a SalI adapter. The main library (plate numbers begin with 1) of 39,000 clones was rearrayed into the sublibrary (plate numbers begin with 201) containing 5,000 putative expression clones. Average insert size is 1 kb. Note: The rearrayed sublibrary (plate numbers begin with 201) was sequenced. Library generation and sequencing was granted in context of GABI-LAPP; data are also accessible at
                                                                                                                                                                                                                                                                                                                                                218n06_pl AtMl Arabidopsis thaliana cDNA clone MPMGp2011N06218
5-PRIME, mRNA sequence.
CK118014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; core of eurosids II; Brassicales; Brassicaceae; Arabidopsis.
1 (Dases 1 to 769)
Peilner, T., Immink, R.G.H., Cahill, D.J. and Kersten, B. Generation of a cDNA expression library from Arabidopsis inflorescence meristem
                                                                                       ABATATCTCACTCGCAATCAATTCAGCCGATAGCGGGAACGGGAAGGCGACTGGAGTGCC 120
GCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCGCGGTCTGCGTCTGCGTTGGCTTGGCTT 686
                                                                         746
                                   CTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCTTACCGAGTCCGGGC 864
                                                                         AAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23.3%; Score 768; DB 7; Length 769; 100.0%; Pred. No. 4.5e-216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /tissue_type="inflorescence meristem"
/dew stage="about one week after bolting"
/lab_host="E. coli SCS-1/pSE111"
/clone_lib="AtM1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ontact: Birgit Kersten
Plant Protein Chip Group, Department Lehrach
Max-Planck-Innstitute for Molecular Genetics
Innsstr. 73, D-14195 Berlin, Germany
Tel: 449(0)30/84131128
Fax: +49(0)30/84131128
Fax: +49(0)30/84131128
Fax: +49(0)30/84131128
Fax: Length: 769 Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 clone="MPMGp2011N06218"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="GABI:956015"
/db_xref="taxon:3702"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in context or when the https://gabi.rzpd.de"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Plate: 218 row: N column: 6 Seq primer: pQE65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /mol_type="mRNA"
/ecotype="Columbia"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                              CK118014.1 GI:47828330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                    239
                                                                         687
                                                                                                          179
                                                                                                                                               747
                                                                                                                                                                                                                       807
                                                                                                                                                                                                                                                            29
627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                      LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                 RESULT 3
CK118014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
```

1044

1104

720

```
Colletotrichum trifolii
Editotrichum trifolii
Editotrichum trifolii
Editorichum trifolii
Editorichum trifolii
Editorichum trifolii
Editorichum trifolii
Editorichum trifolii
Editorichum Editorichum trifolii race I
I (bases I to 806)
Samac, D.A., Dickman, M., Town, C.D., Van Aken, S., Utterback, T.,
ESTS from mycelia of Colletotrichum trifolii race I
Unpublished (2002)
Contact: Deborath A. Samac
Department of Plant Pathology
University of Minnesota
Pers. 651 649 5058
Fax: 651 649 5058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /tissue_type="mycelia"
/dev stage="Young, actively growing mycelia (3 days after
incollation) grown in liquid culture (cutin minimal medium
containing 2%glucose)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       806 bp mRNA linear EST 18-JUL-2002 DSCT Colletotrichum trifolii cDNA clone pDSCT3-64, mRNA
                                                                                                          602
                                                                                                                                                       900
                                                                                                                                                                                                                                                                                       722
                                     9
                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="DSCT".
/note="Vector: pBluescript SK+; Site_1: EcoRI; Site_2:
/note="Vector: pBluescript SK+; Site_1: EcoRI; Site_2:
EcoRI; isolate: 2sp2; cDNA was prepared from polyA+
enriched RNA The cDNA was ligated into Lambda gtll from
Stratagene and packaged using Gigapack packaging extracts.
An aliquot of the amplified library was used to transduce
E. coli Y1090 and phage DNA was purified from a liquid
                                                                                                                                  601 GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                       661 CGTCTGCGTCTGGCTGGCTGATATCTCTCACTCGCAATCAAATTCAGCCGATAGCG
                GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                   CCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                          GTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                      GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: debbys@puccini.crl.umn.edu
TIGR sequence name: MTSAC64TV More information is available at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          www.medicago.org
Seq primer: (gtA Ath CgA CtC ACt Ath ggg C).
Location/Qualifiers
Location/Qualifiers
i. 806
/organism="Colletotrichum trifolii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /mol_type="mRNA"
/strain="race 1"
/db_xref="taxon:5466"
/clone="pDSCT3-64"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BQ751220.1 GI:21906625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BQ751220
EST631783 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGG 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     779 GAGG 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seguence
                                                                                                   543
                                                                                                                                                                                                                                                                                663
                                                                                                                                                                                                                                                                                                                                                                      723
                                                                                                                                                                                                                                                                                                                                                                                                                                                            783
                                                                                                                                                                                          603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BQ751220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                            셤
                                                                                               ઠ
                                                                                                                                  g
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                           8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /Globe_11be_70SCT.

/Globe_11be_70SCT.

Drote="Vector: pBluescript SK+; Site_1: BcoRI; Site_2:
BcoRI; isolate: 2sp2; cDNA was prepared from polyā+
enriched RNA The cDNA was ligated into Lambda gtll from
Strategene and packaged using Gigapack packaging extracts.
A aliquot of the amplified library was used to transduce
E. coll Y1090 and phage DNA was purified from a liquid
lysate. The cDNA inserts were gel purified after EcoRI
digestion and ligated into pBluescript SK. Aliquots of
the ligation were used to transform E. coll Disalpha which
were plated onto medium with X-gal for selection of
                                                                                 495 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108, USA Tel: 612 625 1243
Fax: 651 649 5058
Bmail: debbys@puccini.crl.umn.edu
TIGR sequence name: MTSAF59TV More information is available at: Seq primer: (gtA AtA CgA CtC ACt AtA ggg C).
                                                                                                                                                                                                                                                                                                                                                                                                 /tissue_type="mycelia"
/dev stage="Young, actively growing mycelia (3 days after incollation) grown in liquid culture (cutin minimal medium containing 2*glucose)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAACG 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 Greterrareadacedrirecededrigadecadeceadecadecatrerecedadade
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183 CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 243 CAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGCAC 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACATCTTCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     363 GIGGIGICGAIGGIAGAACGAAGCGGCGICGAAGCCTGIAAAGCGGGGGGGACAATCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ,
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match

23.1%; Score 762; DB 5; Length 793;
Best Local Similarity 99.1%; Pred. No. 2.8e-214;
Matches 777; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                             organism="Colletotrichum trifolii"
                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:5466"
/clone="pDSCT6-59"
                  Contact: Deborah A. Samac
Department of Plant Pathology
University of Minnesota
                                                                                                                                                                                                                                                                                                           /mol_type="mRNA"
/strain="race 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 recombinants."
                                                                                                                                                                                                                                                                         . 793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
COMMENT
```

ORIGIN

엄

ठ

g

ઠે g à 셤 ò 쉱 à 윰 ઠે 8 δ

ò

```
CB863541
CB863541.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                           source
   ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loca
Matches
                                                                                                                                     JOURNAL
COMMENT
                                                                                           REFERENCE
                                                                                                     AUTHORS
                                                                                                                                                                                                                                                               FEATURES
                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
lysate. The cDNA inserts were gel purified after ECORI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DH5alpha which were plated onto medium with X-gal for selection of recombinants."
                                                                                                     2
                                                                                                                                                                                                                  182
                                                                                                                                                                                                                                                               242
                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                777
                                                                                                                                                                       122
                                                                                                                                                                                            120
                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                          302
                                                                                                                                                                                                                                                                                                                                                     362
                                                                                                                                                                                                                                                                                                                                                                                                  422
                                                                                                                                                                                                                                                                                                                                                                                                                                              482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      602
                                                                                                                                               9
                                                                                                                                                                                                                                                                                                         541 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                      CGGGAAAAAGCGGCGGAGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAATTCAGGGTGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                               CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                      GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                           ececcercecaarrerececearraarrerececearcaacreereceaeere
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCGCGCAACGCGTCAGTGGGGCTGATAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481 GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCATCAACAGTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                          GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                       CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                   GTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                        GIGGIGICGATGGIAGAACGAAGGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCGCGCAACGCGTCAGTGGCCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                      Gaps
                                                                                                    ..
..
                                                                               Length 806;
                                                                                                    16; Indels
                                                                              22.9%; Score 755.4; DB 5; larity 97.4%; Pred. No. 2.5e-212; Conservative 0; Mismatches 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGGGCATCGTTCCCACTGCGATGCTGGTTG 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGG--CATCGTTCCACTGCGATGCTGGTTG
                                                                                           Similarity
                                                                                                    790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    783
                                                                                                                                                                       63
                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                               183
                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                         243
                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                     303
                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                  363
                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                              423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          778
                                                                                Match
                                                                                           Local
                                                                                                    Matches
                                                                                Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                           g
                                                                                                                                                                                      g
                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ठे
                                                                                                                                                                    ઠે
                                                                                                                                                                                                          ે
                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

CB863541 689 bp mRNA linear EST 22-APR-2003 HH04A08y HH Hordeum vulgare cDNA clone HH04A08 3-PRIME, mRNA sequence.

RESULT 6 CB863541/c LOCUS DEFINITION

ö 390 Hordeum vulgare
Hordeum vulgare
Hordeum vulgare
Eukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Pooideae; Triticeae; Hordeum.
1 (bases 1 to 689)
Varshney,R.K., Zhang,H., Burton,R., Stein,N., Langridge,P. and 140 570 200 510 260 320 630 330 440 270 /note="Vector: pSPORT; Site 1: SalI (5-end of cDNA); Site 2: NotI (3-end of cDNA); Due to the cloning system used_blue/white selection for recombinants is not 100 % 80 GCGCCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTGGTAGAA GTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTT GTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCCGGTGTCTCTTATCAGACCGTT GCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACAGGCGGGCAAACAG 509 GCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGGCAAACAG TCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTC 449 TCGTTGCTGATTGGCCGTTGCCACTTCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTC GCGCCGATTAAATCTCGCCCCATCAACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAA CGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGT AAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAAT Gaps Contact: Stein Nils
Molecular Markers Group, Department Genbank
Institute of Plant Genetics and Crop Plant Research (IPK)
Corrensstr. 3, 06466, Gatersleben, Germany
Tel: 039482-5525
Email: stein@ipk-gatersleben.de
Insert Length: 689 Std Error: 0.00
Plate: 4 row: A column: 8 ö Length 689 Indela reliable. Average insert size is 1.3 kb old" 20.8%; Score 684.8; DB 6; 99.6%; Pred. No. 2.3e-191; live 0; Mismatches 3; /db_xref="GABI:555198"
/db_xref="taxon:4513"
/clone="HH04A08"
/tissue_type="coleoptile"
/dev stage="coleoptile, 1 day ol .689
 /organism="Hordeum vulgare" /mol_type="mRNA"
 /cultivar="Sloop" Barley ESTs from coleoptile tissue Unpublished (2003) Location/Qualifiers /clone lib="HH" GI:30058100 686; Conservative Sed primer: SP6. Similarity Graner, A 329 389 ద ద

ò

353 450 570

690

```
652 ACGITATACGAIGICGCAGAGIAIGCCGGIGICICITAICAGACCGIIICCCGCGIGGIG 593
                                                           GCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTGAT 271
                                                                                                                        TOGOGITICCACTCCAGTCTGGCCCTGCAC-GCGCCGTCGCAAATTGTCGCGGGGGATTA 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GSS 06-NOV-2002
                                                                                                                                                                             TCGAAGCCTGTAAAGCGGCGGTGCACATCTTCTCGCGCAACGGTCAGTGGGCTGATCA 293
                                                                                                                                                                                                                                                                                                                                                          571 AAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGC 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             uncultured marine virus
Viruses; environmental samples.

(bases; environmental samples.

Exercises 1 to 710.

Breitbart, M., Salamon, P., Andresen, B., Mahaffy, J.M., Segall, A.M., Mead, D., Azam, F. and Rohwer, F.

Mead, D., Azam, F. and Rohwer, F.

Genomic analysis of uncultured marine viral communities
Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14250-14255 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AY080106
AY080106 Scripps Pier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p3GGL, genomic survey
                                        AACCAGGCCAGCCACGTTTCTGCGAAAACGCGGG-AAAAAGTGGAAGCGGCGATGGCGGA
                                                                                                                                                                                                                    331 AATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTCGATGGTAGAACGAAGCGGCG
                                                                                                                                                                                                                                     CGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATG
                                                                                                                                                                                                                                                                                                                                       TCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  691 ATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGAAG 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism="uncultured marine virus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biology Dept.
San Diego State University
5500 Campanile Dr. San Diego, CA 92102,
Tel: 6195941336
Fax: 619595676
Email: forest@sunstroke.sdsu.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AY080106.1 GI:24745302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Rohwer F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Class: shotgun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12384570
                                                                                                  212
                                                                                                                                                           272
                                                                                                                                                                                                                                                 412
                                                                                                                                                                                                                                                                               391
                                                                                                                                                                                                                                                                                                           352
                                                                                                                                                                                                                                                                                                                                                                                                 511
                                                                                                                                                                                                                                                                                                                                        451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 8
AY080106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                              g
                                     ò
                                                                                               ò
                                                                                                                        g
                                                                                                                                                                                 g
                                                                                                                                                     ò
                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                    ∂ 8
                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ծ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                              712 bp mRNA linear EST 04-SEP-2003
DKFZp566E0346_r1 566 (synonym: hfkd2) Homo sapiens cDNA clone
AL038548
                  560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This is the 5' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKPZ); Email s.wiemann@dkfz- heidelberg.de;
sequenced by MediGenomix (Martinsried/Germany) within the cDNA
sequencing consortium of the German Genome Project. No sl sequence
available
This clone (DKFZp566E0346) is available at the RZPD in Berlin.
Please contact the RZPD: Reseourcenzentrum, Heubnerweg 6, 14059
Berlin- Charlottenburg, GERMANY; Email: clone@rzpd.de.
TTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAG 620
                                                                                                                                                                         ä
                                                                                                                                       30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGITATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCCGCGTGGTG 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi;
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92
                                                        ACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATT
                                                                                                                                                                                                  33 GGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAATGTGAAACCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleosto
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 712)
Ottenwaelder, B., Obermaier, B., Mewes, H.W., Gassenhuber, J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone_lib="566_(symonym: hfkd2)"
/note="Vector: pAMP1; Site_1: Not1; Site_2: Sal1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 712;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20.5%; Score 676.4; DB 1;
ilarity 99.6%; Pred. No. 7.2e-189;
Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                   681 TGGCATAAATATCTCACTCGCAATCAAAT 709
                                                                                                                                                                                                                                                      29 TGGCATAAATATCTCACTCGCAATCAAAT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/db_xref="taxon:966"
/clone="bk72p5666346"
/tissue_type="kidney"
/dev_grage="ketal"
/ab_host="x1-2blue"
/clone_lib="566 (synonym
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST (Ottenwaelder, et al.)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                 AL038548.1 GI:5407738
                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wiemann, S.
EST (Ottenw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  669;
                             269
                                                         501
                                                                                                                 561
                                                                                                                                               149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                           RESULT 7
AL038548/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                          a
               셤
                                             ⋧
                                                                                                             ò
                                                                                                                                                                                                      셤
                                                                                                                                  음
                                                                                                                                                                   à
                                                                                                                                                                                                                                                           g
```

g ઢ

È

```
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                  Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 3' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKEZ); Email s.wiemann@dktz-heidelberg.de;
sequenced by EMBL (Buzopean Molecular Biology Laboratories,
Heidelberg/Germany) within the cDNA sequencing consortium of the
                                                                                                                                                                                       1 (bases 1 to 660) Ansorge, W., Benes, V., Krieger, S., Mewes, H.W., Gassenhuber, J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              No risequence available.
This clone (DKFZp4341102) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        145 GCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAAACGCGGGAAAAAGCGGAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540 TGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGGCAAACAGTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        265 TGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTAGAACGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360 GCGGCGTCGAAGCCCTGTAAAGCGGCGGTGCAATCTTCTCGCGCAACGGGTCAGTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rgarcarraacrarcegeregargaccaggargecarrecreregeagerecerecera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGCGGGGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480 recrearrescerreccacerceagrerescerecacececerescanderes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGCCGTCGAAGCCTGTAAAGCCGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /dev stage="adult"
/lab_host="DH10B"
/clone_lib="434 (synonym: htes3)"
/note="Vector: pSport1; Site_1: Not1; Site_2: Sall"
DKFZp434I102_s1 434 (synonym: htes3) Homo sapiens cDNA clone DKFZp434I102_3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 660;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cch 19.6%; Score 647.4; DB 1; al Similarity 99.7%; Pred. No. 2.9e-180; 659; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="DKFZp4341102"
/tissue_type="testis"
                                                                                                                                                                                                                                                 EST (Ansorge, Benes, et al.)
Unpublished (1999)
                                           AL044483
AL044483.1 GI:5432701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 German Genome Project
                                                                                                      Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1. .660
                                                                                                                                                                                                                                                                                             Contact: MIPS
                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                  Wiemann,S.
                                                                                                                                                                                                                                                                                                               MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                    SOURCE
ORGANISM
  DEFINITION
                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                           ACCESSION
                                                               VERSION
KEYWORDS
                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1059
                                                                                                                                                                                                                                                                                                                                                                                                                                           459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rrcrrgargrcragacacaccarcaacagrarrarrrrrcrcccargaagacggra 187
                                                                                                  /note="Marine viruses were isolated from 200 liters of surface seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by randomly shearing the total marine viral community DNA, end-repairing, ligating dsDNA linkers to the ends, and amplifying the fragments using Vent DNA polymerase. The resulting fragments were ligated into the pSMART vector and electroporated into MCI2 cells (Lucigen; Middleton, WI)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67
                                       /clone="SIO51p3G6L"
/clone lib="Scripps Pier (La Jolla, CA) uncultured virus
community"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCCATGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAAACCATGCAAATGCTGAATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCAGATGGCGCTGGGCGCGAATGCGCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCCGCCGTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCTCAGGGCCAGGGGGAAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                           GTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGCTGCAGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         700 GCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           428 ATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                488 ATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   608 TCTCTCAGGGCCAGGCGGTGAAGGGCAATCANCTGTTGCCCGTCTCACTGGTGAAAA-AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Gaps
                                                                                                                                                                                                                                                                                                                                                        Length 710
                                                                                                                                                                                                                                                                                                                                                                                                 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAACCACCTGGCGCCCAATACGCAAACCGCCTCTCCC 1097
                                                                                                                                                                                                                                                                                                                                                        Score 676; DB 8; 1
Pred. No. 9.5e-189;
0; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAACCACCTGGCGCCCAATACGCAAACCGNCTTTCCC
/mol_type="genomic DNA"
/db_xref="taxon:186617"
                                                                                                                                                                                                                                                                                                                                                        20.5%;
                                                                                                                                                                                                                                                                                                                                                        Query Match 20.5
Best Local Similarity 98.9
Matches 690; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                           400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  640 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 9
AL044483/c
LOCUS
                                                                                                                                                                                                                                                                                                                 ORIGIN
```

g 8 a ઠે g ઠે 셤 ઠે

ઠે

ઠ 용 ठ g ò g 1; 144

Gaps

;

204 541 264 481 324 421 384 361 444 301 504 241 564

g

8 ò g

ሯ

g ઠે

ò

505 ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCT

ò

EST 04-SEP-2003

linear

mRNA

ď 099

AL044483

α

a

셤 ò

ò

셤 ò 용 ò

```
210 GAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTG 269
                                                                                                         402
                                                                                                                                                                                                                GTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATC 449
                                                                                                                                                                                                                                                                                                                                 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CB863814 62-4 Pp mRNA linear EST 22-APR-2003
HH07B20y HH Hordeum vulgare cDNA clone HH07B20 3-PRIME, mRNA
                                                                                                                                                                                                                                                                                                                                                               162
                                                                                                                                                                                                                                                                                                                                                                                               569
                                                                                                                                                                                                                                                                                                                                                                                                         Hordeum vulgare
Hordeum vulgare
Eukaryora, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta; Liliopsida; Poales; Poaceae;
Pooideae; Triticeae; Hordeum.
1 (bases 1 to 624)
Varshney,R.K., Zhang,H., Burton,R., Stein,N., Langridge,P. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                             629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATT
                                                                                                                                                AAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAACGAAGCGGC
                                                                                                                                                                                                                                                                                                                     CCGGCGTTATTTCTTGATGTCTCTGACCAGCACCCATCAACAGTATTTTTCTCCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  570 GAAGACGCTACGCGACTGGGGCGTCGACTCGCATTGGGTCACCACCAGCAAATCGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Molecular Markers Group, Department Genbank
Institute of Plant Genetics and Crop Plant Research (IPK)
Corrensetr. 3, 06466, Gatersleben, Germany
Tel: 039482-5522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              630 CIGITAGCGGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCG 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41 CTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCG 1

    624
    organism="Hordeum vulgare"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /mol_type="mRNA"
/cultivar="Sloop"
/db_xref="GAB1:555471"
/db_xref="Raxon:4513"
/clone="HH07B20"
/tissue_type="coleoptile"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Barley ESTs from coleoptile tissue Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: stein@ipk-gatersleben.de
Insert Length: 624 Std Brror:
Plate: 7 row: B column: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CB863814.1 GI:30058373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Seq primer: SP6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               seguence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CB863814
                                                                                                                               270
                                                                                                                                                                                            330
                                                                                                                                                                                                                                                          390
                                                                                                                                                                                                                                                                                                                       450
                                                                                                                                                                                                                                                                                                                                                                                       510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 11
CB863814/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                       g
                                                                                                                                                     g
                                                              ò
                                                                                                                         ò
                                                                                                                                                                                   ò
                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                          BJ063872
BJ063872 NIBB Mochii normalized Xenopus tailbud library Xenopus
Losseria CDNA clone XL077k02 5', mRNA sequence.
240 AIGITCCGGCGTIAITITTTTGAIGTCTCTGACCAGCCACCCATCAACAGTAITAITITTT 181
                                                                        685 ATAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTG 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90 GTAACGITATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCCGCGTG 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      150 GTGAACCAGGCCAGGTTTCTGCGAAAACGCGGGAAAAAGTGGAAGCGGCGATGGCG 209
                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Ambibla, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae, Xenopodinae, Xenopus, Xenopus.

1 (bases 1 to 641)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: tshini@genes.nig.ac.jp
The information of this clone is available through the following
                                                  CCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                      30 CGCGGTATGGCATGATAGCGCCCCGGAAGAGAGTCAATTCAGGGTGGTGAATGTGAAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           641 CGCGGTATGGCATGATGGCCCCGGAAGAGTCAATTCAGGTGGTGATGTGAATGTGAAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kitayama, A., Terasaka, C., Mochii, M., Ueno, N., Shin-i, T. and Kohara, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .641
/oxganism="Xenopus laevis"
/oxganism="Xenopus laevis"
/oxfanism="Xenopus lass"
/db xref="tenxna"
/clone="XL077k02"
/tissue_type="whole embryo"
/de_stage="stage 25"
/clone_lib="NIBB Mochii normalized Xenopus tailbud
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
19.4%; Score 641; DB 4; Length 641;
Best Local Similarity 100.0%; Pred. No. 2.3e-178;
Matches 641; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Expressed genes in X. laevis embryo Unpublished (2001)
Contact: Tadasu Shin-i Contact: Tadasu Shin-i National Institute of Genetics National Institute of Genetics 1111 Yata, Mashima, Shizuoka 411-8540, Japan Pax: 81-559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xenopus laevis (African clawed frog)
Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        http://xenopus.nibb.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                           BJ063872.1 GI:17471074
EST.
                                                                                                                                                                                                                                           745 C 745
                                                                                                                625
                                                    565
                                                                                180
                                                                                                                                                                                                                                                                                                                     RESULT 10
BJ063872/c
                                                                                                                                                                                                                                                                                                                                                   LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
```

ORIGIN

g È g à

```
1048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>``</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         197
                                                              Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany This is the 3' sequence of the clone insert Clone from S. Wiemann, Molecular Genome Analysis, German Cancer Research Center (DKFZ); sequenced by Qiagen Within the cDNA sequencing consortium of the German Genome Project. rl sequence also available.
                                                                                                                                                                                 6, 14059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTGTTAGCGGGCCCATTAAGTTCTGTCTCGCGCGTCTGCGTCTGGCTTGGCTTGGCTTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            436 CCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGGCAAACCAGCGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTGCTGCAACTCTCTCAGGGCCAGGGGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          316 GGTGAAAAGAAAAACCCCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGTTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGAAGACGGTACGCGACTGGGCGTGGAG-ATCTGGTCGCATTGGGTCACCACCAGCAAATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGTTAGCGGGCCCATTAAAGTTCTGTCTGGGGGCGTCTG-GTCTGGCTGGCTGGCTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCCACTGGAGTGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCCATTACCGAGTCCGGGCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGCTGCAACTCTCAGGGCGCGGTGAAGGGCCAATCAGCTGTTGCCCGTCTCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTGAAAAGAAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGCTTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGATTCATTAATGCAGCTGGCACGACAGGTTTCCCCGACTGGAAAGCGGGCAGTGAGCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGAAGACGGTACGCGACTGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                             /tissue_rype="restis"
/dev stage="adult"
/dev stage="adult"
/dev stage="bulos"
/clone lib="434 (synonym: htes3)"
/note="Vector: pSport1; Site_1: Not1; Site_2: Sall"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
2
                                                                                                                                                              This clone is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de.
Location/Qualifiers
1. 794
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                  18.5%; Score 612; DB 1; Length 794;
99.7%; Pred. No. 1e-169;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGCAATTAATGTGAGTTAGCTCACTCATTAGGCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             196 ACGCAATTAATGTGAGTTAGCTCACTCATTAGGCAC 161
                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="DKFZp434B075"
   et al.)
 EST (Duesterhoeft,
Unpublished (1999)
Contact: MIPS
MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best_Local Similarity 99.7
Matches 634; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        496 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         929
                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST 04-SEP-2003
                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                 560
                                                                                                                                                                                                                                                                                 122
                                                                                                                                                                                                                                                                                                                  500
                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                    440
                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                  380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      602
                                                                                                                                                                                                                  62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo. 1 (bases 1 to 794)
Duesterhoeft, A., Lauber, J., Mewes, H.W., Gassenhuber, J. and Wiemann, S.
/dev_stage="coleoptile, 1 day old"
/lab.host="DH10B"
/clone lib="HH"
/note="Vector: pSPORT; Site_1: SalI (5-end of cDNA);
Site_2: NotI (3-end of cDNA); Due to the cloning system used blue-white selection for recombinants is not 100 % reliable. Average insert size is 1.3 kb."
                                                                                                                                                                                                                                                                                                                                                                                                                                    319 GCGCCGTCGCAAATTGTCGCGCGGTTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTGGTCTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCGCGCAACGGGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                 GACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                 CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                559 CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                   CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGGTGTCGATGGTAGAACGAAGCGCCGTCCAAGCCTGTAAAGCGGCGCGGTGCAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCGCGCAACGCGTCAGTGGCCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                  GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGT
                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKFZp434B075_81 434 (synonym: htes3) Homo sapiens cDNA clone DKFZp434B075_3', mRNA sequence.
                                                                                                                                                                                   ö
                                                                                                                                                    624:
                                                                                                                                                Score 615.8; DB 6; Length
Pred. No. 7e-171;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCGCATTGGGTCACCAGC 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL045353.1 GI:5433506
                                                                                                                                               Query Match
Best Local Similarity 99.7%;
Matches 617; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      139
                                                                                                                                                                                                                                                                                                                                                                                    499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        603
                                                                                                                                                                                                                  m
                                                                                                                                                                                                                                                 619
                                                                                                                                                                                                                                                                                 63
                                                                                                                                                                                                                                                                                                                                                   123
                                                                                                                                                                                                                                                                                                                                                                                                                    183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 12
AL045353/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                 ORIGIN
```

셤

ઠે 요 & q δ g

ò 셤 ઠે

8

셤

ሯ g ઠે 임 ò 엄 요

ઠે

셤

ò

```
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                         AY080094.1 GI:24745276
                                                                                                                                                                                                                                                                                                                                                                      uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                   uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17.9%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 99.7
Matches 591; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. 608
                                                                                                                                                                                                                                                                                                                 seguence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12384570
                                                    2474
                                                                                                                                                                                                                                                                                                                                                                    SOURCE
ORGANISM
                                                                                                                                                                                                                                         RESULT 14
AY080094/c
                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                  g
                                                                            셤
                                                 ò
                                                                                                         ò
                                                                                                                               qq
                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                  GSS 09-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGGGCCATGGTCCAACAT 2234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2235 CGACACCAGCAAAGIGAATTATGGIGTAACGGIACTGCCGACCTTCAAGGGICAACCAIC 2294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2295 CAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGTCCGAACAAAAGAGCT 2354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2355 GGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTGGAAGCGGTTAA-TA 2413
                           CL655575
PRI0124a_C01 - PRI0124a.B21 (752) Mixed stage fosmid library of P. Pacificus var. California Pristionchus pacificus genomic, genomic gurvey equence.
CL655575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          392 GGCGAAAGAGTTCCTCGAAACTATCTGCTGATGATGAAGGTCTGGAAGCGGTTAATTA 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone_lib="Mixed stage fosmid library of P. pacificus var. California"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1996 ITCACCTGGCCGCTGATTGCTGCTGAC-GGGGGTTATGCGTTCAAGTATGAAAACGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GOTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTACTCCATCGCAGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2055 GTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCGGGTCTGACCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Srinivasan, J., Otto, G.W., Kahlow, U., Geisler, R. and Sommer, R.J. AppabB: an AcedB database for the nematode satellite organism Pristionchus pacificus
Nucleic Acids Res. 32 (1), D421-D422 (2004)
                                                                                                                                                                                                                                                                                                                                                                   end
                                                                                                                           Pristionchus pacificus
Pristionchus pacificus
Eukaryota, Metazoa, Nematoda, Chromadorea, Diplogasterida,
Neodiplogasteridae, Pristionchus.
                                                                                                                                                                                                                                                                         Evolutionary Biology
Max-Planck-Institute for Developmental Biology
Spemannstr. 37-39, Tuebingen D-72076, Germany
Tel: 00497071601371
Email: semmerætuebingen.mpg.de
This library was generated at Caltech, Pasadena, USA and egequenced at Vancouver, Canada.
Seg primer: Tr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 752;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="Vector: pEpifos-5 Fosmid vector"
                                                                                                                                                                                                                                                                                                                                                                                                                                  1. 752
Coganism="Pristionchus pacificus"
/mol type="genomic DNA"
/strāin="California"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18.3%; Score 603; DB 9; L
llarity 98.9%; Pred. No. 4.7e-167;
Conservative 0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             db_xref="taxon:54126"
                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                 CL655575.1 GI:50134897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 628; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         692
                           LOCUS
                                                                                              VERSION
KEYWORDS
SOURCE
ORGANISM
RESULT 13
CL655575/c
                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
                                                                                  ACCESSION
                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

```
2414 AAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAGAGAGTTGGCGAAAGATC 2473
                                                                                                                         CACGIATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATGCCGAACATCCCGC 2533
                                                                                                                                                                                                                                                2534 AGAIGTCCGCTTTCTGGTATGCCGTACTGCGGTGATCAACGCCGCCAGCGGTCGTC 2593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GSS 06-NOV-2002
                                    ö
                                                                                                                                                                 212 AGAIGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCCGCCAGCGGTCGTC 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="Marine viruses were isolated from 200 liters of surface seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by randomly shearing the total marine viral community DNA, end-repairing, ligating dabNA linkers to the ends, and amplifying the fragments using Vent DNA polymerase. The resulting fragments were ligated into the pSMART vector and electroporated into MC12 cells (Lucigen; Middleton, WI)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="uncultured marine virus"
/mol_type="genomic DNA"
/mol_type="genomic DNA"
/db xref="taxon:186617"
/clone="slo51p51p41"
/clone_lib="Scripps Pier (La Jolla, CA) uncultured virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Viruses; environmental samples.
I (bases 1 to 608)
Breitbart, M., Salamon, P., Andresen, B., Mahaffy, J.M., Segall, A.M., Mead, D., Azam, F. and Rohwer, F.
Genomic analysis of uncultured marine viral communities
Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14250-14255 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AY080094
AY080094 Scripps Pier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p3D4L, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  287 CAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 589.8; DB 8; Length 608;
Pred. No. 3.7e-163;
0; Mismatches 2; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                             2594 AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 2628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Rohwer F
Biology Dept.
Biology Dept.
San Diego State University
5500 Campanile Dr. San Diego, CA 92102, USJ
Tel: 6195941336
Fax: 619595576
Email: forest@sunstroke.sdsu.edu
Class: shotgun.
                                                                                                                                                                                                                                                                                                                                                                                                                    AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 118
```

ö

g

ò

g

કે

g

엄 ò

ઠ

엄

ò

g

ð g ઠે 셤 ઠે

ò

```
tissue_type="brain"
                                                                                                                    Similarity
                                                                                                                                 587;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          49
                                                                                                                                                                                                                         577
                                                                                                                                                                                                                                                       529
                                                                                                                                                                                                                                                                                   637
                                                                                                                                                                                                                                                                                                                469
                                                                                                                                                                                                                                                                                                                                              697
                                                                                                                                                                                                                                                                                                                                                                            409
                                                                                                                                                                                                                                                                                                                                                                                                         757
                                                                                                     Query Match
Best Local
Matches 58
                                                                                                      Match
                                                                         ORIGIN
                                                                                                                                                                                          임
                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                          유
                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AL037742 589 bp mRNA linear EST 04-SEP-2003
DKF25554C157 r1 564 (synonym: hfbr2) Homo saplens cDNA clone
AL037742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKF2); Email s.wiemann@dkfz-heidelberg.de;
sequenced by GBF (National Research Centre for Biotechnology Ltd.,
Braunschweig/Germany) within the cDNA sequencing consortium of the
 406
                               489
                                                           466
                                                                                     429
                                                                                                                    526
                                                                                                                                                  369
                                                                                                                                                                              586
                                                                                                                                                                                                          309
                                                                                                                                                                                                                                       646
                                                                                                                                                                                                                                                                     249
                                                                                                                                                                                                                                                                                                 706
                                                                                                                                                                                                                                                                                                                                189
                                                                                                                                                                                                                                                                                                                                                            996
                                                                                                                                                                                                                                                                                                                                                                                          129
                                                                                                                                                                                                                                                                                                                                                                                                                       826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                     69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No s1 sequence available.
This clone (DKRZp564C157) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERWANY; Email: clone@rzpd.de.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                    AAGTTCTGTCTCGGCGCGTCTGCGTCTGGCTGGCTGGCTAAAATATCTCACTCGCAATCA
                                                                                                                                                                                                                                                                                                                                                                                                                       CATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGAT
ACTGGGTGCCAGCGTGGTGGTGGTGGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGC
                                                                            TGACCAGGATGCCATTGCTGTGGAAGCTGCCTGCACTAATGTTCCAGCGTTATTTCTTGA
                                                                                                                                                                                             AATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCCATGTCCGGTTTTTCAACAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                        Bloecker, H., Boecher, M., Brandt, P., Mewes, H.W., Gassenhuber, J.
                                                                                                                   TGACCAGGATGCCATTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGA
                                                                                                                                                                              TGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACT
                                                                                                                                                                                                                                         GGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATT
                                                                                                                                                                                                                                                        GGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATT
                                                                                                                                                                                                                                                                                                  AAGTICTGTCTCGCCGTCTGCGTCTGGCTGGCTTAAATATCTCACTCGCAATCA
                                                                                                                                                                                                                                                                                                                                                                                AATTCAGCCGATAGCGGAAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAAC
                                                           GCCGGTCCACAATCTTCTCCCCCAACCCGTCAGTGCGCTGATCATTAACTATCCGCTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG 878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1. .589
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="DKFZp564C157"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wiemann, S.
EST (Bloecker, et al.)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AL037742.1 GI:5407088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   German Genome Project
No 81 sequence availa
This clone (DKFZp564C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 589)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: MIPS
                                                                                                                                                                                                                                                                                                 647
                                                                                                                                                                                                                                                                                                                                248
                             548
                                                                                                                                                                                                                                                                     308
                                                                                                                                                                                                                                                                                                                                                              707
                                                                                                                                                                                                                                                                                                                                                                                          188
                                                                                                                                                                                                                                                                                                                                                                                                                       167
                                                                                                                                                                                                                                                                                                                                                                                                                                                     128
                                                                                                                                                428
                                                                                                                                                                            527
                                                                                                                                                                                                          368
                                                         407
                                                                                                                    467
                                                                                                                                                                                                                                       587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
AL037742/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
```

```
530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         636
                                                                                                                                                                                                                                                                                                                                                                       470
                                                                                                                                                                                                                                                                                                                                                                                                                    969
                                                                                                                                                                                                                                                                                                                                                                                                                                                               410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                349 TTCAACAANCCATGCAAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           589 TATTICTIGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCTTGAAGACG
                                                                                                                                                                                                                                                                                                                         GTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAG
                                                                                                                                                                                                                                                                                                                                               GTACGCGACTGGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCTTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              229 CGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCTCGCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACTCTCTCAGGGCGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      109 AACTOTOTOAGGGCCAGGCGGTGAAGGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAA
                                                                                                                                                                                                                                 TATITCTIGATGTCTCTGACCAGACACCCATCAACAGTATTATTTCTCCCATGAAGACG
                                                                                                                                                                                                                                                                                                                                                                                                                    CTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGC
                                                                                                                                                                                    Gaps
/dev stage="fetal"
/lab_host="X1-2blue"
/clone_lib="564 (synonym: hfbr2)"
/note="Vector: pAMPL; Site_1: Not1; Site_2: Sall"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1057. GAAAAACCACCTGGCGCCCAATACGCAAAACCGCCTCTCCCCGCGCGGTT 1105
                                                                                                                                                                                    ö
                                                                                                                                         Length 589;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCCGCGCGTT 1
                                                                                                                                                                                    Indels
                                                                                                                                     17.8%; Score 586.4; DB 1;
99.7%; Pred. No. 3.7e-162;
tive 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Search completed: August 3, 2005, 02:02:48
Job time : 6745.2 secs
                                                                                                                                                                                       Conservative
```

THIS PAGE BLANK (USPTO)

e?

Н

Title: Perfect score: Sequence:

OM nucleic

Run on:

Scoring table:

Minimum DB Maximum DB

Database

```
Sequence 30, Appl
Sequence 25, Appl
Sequence 20, Appl
Sequence 61, Appl
Sequence 61, Appl
Sequence 11, Appl
Sequence 11, Appl
Sequence 194, App
Sequence 194, Appl
Sequence 194, Appl
Sequence 17, Appli
Sequence 2, Appli
                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 52, Appl
Sequence 2, Appli
Sequence 1, Appli
Sequence 32, Appl
Sequence 32, Appli
Sequence 2, Appli
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: Partial sequence of pMal-ml and zinc finger OTHER INFORMATION: protein ZFPml
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 14, Application US/09765555

Sequence 14, Application US/09765555

Publication No. US20030037355A1

GENERAL INFORMATION:
APPLICANT: THE Scripps Research Institute
TITLE OF INVENTION: Expression in plants
FILE REPERSENCE: 27801-220014.40

CURRENT APPLICATION NUMBER: US/09/765,555
CURRENT FILING DATE: 2002-05-24

PRIOR PLING DATE: 2000-01-21
PRIOR PLING DATE: 2000-01-21

PRIOR PLING DATE: 2000-01-21

NUMBER OF SEQ ID NOS: 75

SOCTAMARE: FREESEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 10;
                         US-110-263-153-40
US-10-263-153-40
US-10-263-153-25
US-10-263-153-25
US-10-263-153-25
US-10-263-153-66
US-10-263-153-15
US-10-263-153-15
US-10-263-153-15
US-10-263-153-19
US-10-801-994-194
US-10-801-998-194
                                                                                                                                                                                                                                                                                  US-10-241-596-137
US-10-313-963A-54
US-10-495-491-2
US-10-495-491-1
US-10-495-491-3
                                                                                                                                                                                                                                                                                                                                                                                    US-10-024-809-3
US-10-313-963A-52
US-10-671-995A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 3300; ilarity 100.0%; Pred. No. 0; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Artificial Sequence
 Similarity
 Query Match
Best Local Simil
Matches 3300; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 3300
1238.4
1238.4
1238.4
1237.2
1237.2
                                                                                                                                                                                                                                                                                                                                                         1462.4
1417.6
 Appl
Appli
Appli
Appli
                                                                                                2, 2005, 10:29:49; Search time 1309.2 Seconds (without alignments) 16314.373 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16, 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 14,
                                                                                                                                                                                    1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1
Sequence 1
Sequence 1
Sequence 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Description
                                                                                                                                                                                                                                                                                                                                                                                                                      Published Applications Na:

(cgn2_6/ptodata/1/pubpna/USO7_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO6_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO6_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO6_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
(cgn2_6/ptodata/1/pubpna/USO0P_PUBCOMB.seq:*
(cgn2_6/p
             5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-765-555-14
US-09-765-555-15
US-09-765-555-18
US-09-765-555-16
US-09-765-555-16
US-09-765-555-16
US-10-257-344A-1
US-10-149-472-5
                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                        7287783 segs, 3236178273 residues
              GenCore version
Copyright (c) 1993 - 2005
                                                                                                                                                                                                                                                                                                                                                                                                                  Applications NA:*
                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                     nucleic search, using sw model
                                                                                                                                                                                                                            Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                               seq length: 0
seq length: 200000000
                                                                                                                                                      US-09-765-555B-15
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10
10
10
11
11
11
11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3300
3300
3300
3300
3300
7373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                                                                  Published
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0
100.0
97.8
97.2
82.0
```

GENERAL INFORMA

ö

Gaps

ö

Score 3300

Result

3226.4 3215.2 3207.2 2705.8

	TT 13 	1441 ATTGTGAGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1620	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC	41 TATGAAAACGGCAAGTACGACATTAAAGACGTGGCTGGATAACGCTGGCGAAAGCG 2 ILAAGAGCG 2 ILAAGAGCG 2 ILAAGAGCG 2 ILAAGAGCG 3 ILAAGAGCG 4 ILAAGAGCGTGGGTGGATAAAGGCTGGCGGAAACGC 4 ILAAGAGGCGTGGGCGTGGATAACGCTGGCGCGAAAGCG 5 ILAAGAGGCGTGGGCGTGGATAACGCTGGCGCGAAAGCG 6 ILAAGAGGCGTGGGCGTGGATAACGCTGGCGCGAAAGCG 6 ILAAGAGCGTGGAAAGCGCTGGAAAGCGCTGGAAAGGCGTGGAAAGCGCTGGAAAGCGCTGGAAAGCGCTGGAAAGCGCTGGAAAGCGCTGGAAAGAGCG 5 ILAAGAGAAGCG 5 ILAAGAAGAGCGTGGAAAAGAAGAGCG 5 ILAAGAAGAGCGAAAGCG 5 ILAAGAAGAGCG 5 ILAAGAAGAAGAGCG 5 ILAAGAAGAAGAGCG 5 ILAAGAAGAAGAGCG 5 ILAAGAAGAAGAGCG 5 ILAAGAAGAAGAGCG 5 ILAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAAA	2101 GGTCTGACTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC 2160 2101 GGTCTGACTTCCTGGTTGACCTGATTAAAAACACACATGAATGCAGACACCGATTAC 2160 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAACACATGAATGCAGACACCGATTAC 2160 2161 TCCATCGCAGAAGCGCTTTAATAAAAAGAGCGAAACAGCGATGACGGCCCGTGG 2220
8 6 6 6 6 6	\$ 90 \$ 90 \$ 100 \$	\$ 60 AG	8 6 6	8 8 8	8 8 8	8 6 8 6	6 G	8 8 8
		<u> </u>						
00010004	AACAACTGGGGGGCAAACAGTGGTTGCTGATTGGCGTTGCCACCTCCAGTCGGGGGGGG	TGGTGGTGTCGATGGTGGGGGGTGTGAAGCGGGGGGGGGG	3ACCAGA 54 3ACCAGA 54 3ACCAGA 54 3AGCATC 60	3TCTCGG 1	ATGCTGA 78 ATGCTGA 78 ATGCTGA 84	TGCGCGCATTACCGAGTCCGGCTGGTGGCGATTACTCGTTAGTGGGATACCGTTGGTTG	901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 961 GCCTGCTGGGGCAAACCAGGGTGGACGGCTTGCTGCAACTCTCTCAGGGCCAGGGGGTGA 1020 161	1021 AGGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAGAAAAACCACCCTGGCGCCCAATA 1080

ന

6 6 6

6 6 6 6

g

임

ઠે

a

ò

임

ò

g

ò

g

ठे

8 8 8 8

Š

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGGGAAAAAGTGGGAAGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGGTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGCTGTGGAAGCTGCCTGCACTAATGTTCCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481 TTGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CCGACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                             ; OTHER INFORMATION: Partial sequence of pMal-m2 and zinc finger; OTHER INFORMATION: protein ZFPm2
US-09-765-555-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                           modulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
0
                                         US-09-765-555-15
Sequence 15, Application US/09765555
Fublication No. US20030037355A1
GENERAL INFORMATION:
TITLE OF INVENTION: Methods and compositions to mod
TITLE OF INVENTION: 27801-20014.40
CURRENT APPLICATION NUMBER: US 09/620,897
PRIOR PILING DATE: 2000-01-21
PRIOR FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 75
SOFTWARE: FSECSEQ for Windows Version 4.0
SEQ ID NO 15
LENGTH: 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 3300; ilarity 100.0%; Pred. No. 0; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                       TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 3300; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3180
                                                                                             2340
                                                                                                                                                         2400
                                                                                                                                                                                          2400
                                                                                                                                                                                                                          2460
                                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                        2520
                                                                                                                                                                                                                                                                                                                        2520
                                                                                                                                                                                                                                                                                                                                                       2580
                                                                                                                                                                                                                                                                                                                                                                                       2580
                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3300
TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGGTTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGTGCGCCATCAACGCACTCATACTGGCGAAAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGTCTTTCTCTCGGGCTCTGACAATCTCGTCCGGCACCAACGTACTCACACGGGGGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGCT
                                                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                           rrescenaradarceaceratrescescearcearasanceceagaaagergaaarcars
                                                                                                                                                                                                                                                                                                                                                                                     2521 ccgaacarcccccacagarcrccccrrrrcrccrarcccrrcccrrccccrccacccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2101 GGATCCTCTTCCTCTGTGGCCCAGGGGGCCCTCGAGCCCGGGGAGAAGCCCTAGTGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ccagaargregcaagrerrereregerergacaarcregereegeaccaacgracreae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT
                                                                                                                                                                                                                                                       GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                        TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACAACAATAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGATCCTCTTCCTCTGTGGCCCCAGGCCCCTCGAGCCCCGGGGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                       CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                               GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
2161
                                                                                           2281
                                                                                                                           2281
                                                                                                                                                                                                                                                       2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3181
                                                                                                                                                           2341
                                                                                                                                                                                                                        2401
                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                      2461
                                                                                                                                                                                                                                                                                                                                                       2521
                                                                                                                                                                                                                                                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2821
                               2221
```

a

셤

ઠે

8 6 8

δ

8 &

8 6 8 6

1741 GOTOMATCOSCOANGOCCCTGAACATTCTTCTGGGCACACACGGCTTTTGGTTGTTT 1800 1741 GOTOMATCOSCOANGGCCCTGAACATTCTTCTGGGCCTTCCAGACGTTTTT 1800 1741 GOTOMATCTGGGCTTTGTTTTTAACAGCACACTTCTTTTGTTTTTTTT
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
61 TGGTGGCATTGGGTGGCTANATCGCGTGTTGGCGGTTANGTGTGTTGTGT

Ŋ

g

ર્જ

ઠે ద જે

g ઠે g a

g

ઠે

8 8

ò a ઠ g 셤

ઠે

φ

2700 2700 2640 2940 3120 3120 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGAAGGTCTG GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAGAGCCCTATGCTTGT CGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC TTGGCGAAAGATCCACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATG AACAACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC AAGTCTTTCTCTCGGTCTGACAATCTCGGCCACCAACGTACTCACACGGGGGAGAAG CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 3001 cccrarctrorccosaarorostaagrecricaccaccagrecrecriostradacae CCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCAC ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC CAGCGCCCCACCTGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT CCAGAATGTGGCAAGTCTTTCTCTCGGGCAATCTCGTCCGGCACCAACGTACTCAC 3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC ACCGGTAAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGTTCCGGACTACGCT 3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT CAGGCCGGCCACCTGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT

CGGAACGGGAAGGCGACTGGAGTGCCATGTTCAACAAACCATGCAAATGCTGA 780 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGCGCA 840	1021 AGGGCAATCAGTGTTGCCCGTCTGATGAAAAAAAAAAAA	1261 TCAGGCAGCCATCGGAAGCTGGTGAGCTGGTGAAATCACTGCATAATTCG 1320	1501 GCACTTCACCAACAACGACCATAGATTATGAAAACTGAAGAAACTGGTAATCTGG 1500	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
4 3 4 3 4 3 4 3 4 5	8 8 8 8 8 8 8	8 8 8 8 8 8 8	8 8 8 8 8 8	oy ee
TITLE OF INVENTION: expression in plants FILE REFERENCE: 2780-22014.40 CURRENT APPLICATION NUMBER: US/09/765,555 CURRENT FILING DATE: 2002-05-24 PRIOR PILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR FILIN	97.4%; Score 3215.2; DB 10; Length 3300;	121 GTGTCTTTATCAGACCGTTTCCGGGGTGAACCAGGCCAGGTTTCTGCGAAAA 18 181 GGGGGAAAAAGTGGAAGGGGGGATGGCGGAGTTTACATTCCCAACCGGGGGC 24 181 GGGGGAAAAAGTGGAAGCGGGGGGGGGGGTGGCTGAATTACATTCCCAACCGGGGGGC 24 241 AACAACTGGCGGCAAAACGTGGTGGTGATTGGCGTTGCCACCTCCAGTCTGGCGTGGCC 30 241 AACAACTGGCGGCAAAATGTCGGGGTGGTGGTGGCGTTGCCAGTCTGGCCTGC 30 301 ACGGCCGTCGCAAAATGTCGGGGCGTTAAAATCTCGGGCGGG	100 100	CGCGTCTGCGTCTGGCTGGCTGGCTAAATATCTCACCTCGCAATCAAATTCAGCCGATAG

QY 2941 AAGTCTTTCTCTGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACCGGGGAAAG 3000 Db 2941 AAGTCTTTCAGTGATTGTCGTGATCTTGCGGGGCACCAACGTACTCACACCGGGGGAAG 3000 QY 3001 CCCTATGCTTGTCTGGATACTCTCTCAGCGCATAACTCTCACCGGGCCAC 3060 Db 3001 CCCTATGCTTGTCCGGAATGTGGTAAACTCTTCTCAGAGCTCTCACCTGGTGCGCCAC 3060 QY 3061 CAGGGTACCCACCGGGAATGTGGTAAAATGCTTCTCTCAGAGCTCTCACCTGGTGCGCCAC 3120 Db 3061 CAGGGTACCCACCGGGAAAAACCGTATAAATGCCCAGAGGGCAAATCTTTTAGC 3120 Db 3121 CAGGGGCCACCACGGGGAAACCGTATAAATGCCCAGAGGCAAATCTTTTAGC 3120 Db 3121 CAGGGGCCACCAGGGGCCACCAGAGGCACCAAATGT 3180 CO 3121 CAGGGGCACCTCGGGCCACCATCAACGCACTCATACTGGCGAAATCTTTTAGC 3240 Db 3121 CAGGCGACACTCGGCCAGCACCACACACACACACACAATGT 3180 CO 3121 CAGAGGATAACTTCTCTCTCAGTCCACACATACTGGCGAAATGT 3180 CO 3181 CCAGAATGTGGCCAAGTCTTTCTCAGACCTCATACTGGCGAAACCATACCAACTACCACACACA	RESULT 5 US-09-765-555-16 Sequence 16, Application US/09765555 Publication No. US2003003735A1 GENERAL INFORMATION: APPLICANT: THE Scripps Research Institute TITLE OF INVENTION: expression in plants TITLE OF INVENTION: expression in plants CURRENT APPLICATION NUMBER: US 09/765,555 CURRENT APPLICATION NUMBER: US 09/620,897 PRIOR RILING DATE: 2000-01-21 PRIOR APPLICATION NUMBER: US 60/177,468 PRIOR APPLICATION NUMBER: US 60/177,468 PRIOR FILING DATE: 2000-01-21 NUMBER OF SEQ ID NOS: 75 SEQ ID NO 16 LENGTH: 3300 TYPE: DNA ORGANISM: Artificial Sequence FEATURE: COTHER INFORMATION: PArtial sequence of pMal-m3 and zinc finger US-09-765-555-16	Query Match 97.2%; Score 3207.2; DB 10; Length 3300; Best Local Similarity 98.2%; Pred. No. 0; DB 10; Length 3300; Matches 3242; Conservative 0; Mismatches 58; Indels 0; Gaps 0; Qy 1 CCGACACCATCGARTGGTGAAACCTTTGGGGTATGGCATGATAGGCCCCGGAAGAG 6 1 CCGACACCATCGATGGACGTGAAACCTTTGGGGTATGACGATGATGGCCCCGGAAGAGG 6 Qy 61 GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTGGCGAGGTATGCG 120 0 Db 61 GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTGCGAAAAA 180 Qy 121 GTGTCTTTATCAGACCGTTTCCCGGTGGGTGAACCAGGCCAGCCA
1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAACCTGGGAA 1920	2221 GCATGGTCCAACATCGACAAGGAAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GATGGTCCAACATCGACCCACCAGCAAATTATGGTGTAACGGTACTCCCCGACCTTC 2280 2281 AAGGGTCAACCATCCAAACCGTTGGTGGTGCTGAGCGCAGGTATTAACGCCCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTGGTGGTGCTGAGCGCAGGTATTAACGCCCAGT 2340 2341 CCGAACAAAGAGCTGCAAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2581 ĠĊĊĠĠĠĠŢĊĠŢĊĠĠŢĠĠŢĠĠŢĠĠŢĠĠŢĠĠŢĠĠĠĠĠĠĠĠĠ

1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATGGGCTCGTATAATGTGTGGA 1 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCGTTTAGGTGTTTTCACGA 1 1501 GCACTTCACCAACAAGAACAGAACAGCCAGTCGGTTAACAGGAAATCTGG 1	1501 GCACLICACCAACAAGGACCAIAGATIAIGAAAACLIGAAGAAGGAAAGATIGG 15 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 16 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGATGATCGGTAAGAATTCGAGAAGAATTCGAGAAGAATTCGAGAAGAATTCGAGAAGAATTCGAGAAGAATTCGAGAAGAATTCGAGAAGAATTAAGGGTAAGAATAACGGGAAAAATTCCAAGAGATT 16	1621 ACGGGATTAAAGTCACCGTGAGCATCCGGATAAGTGTGTT	1741 GCTCAATCTGCCTGTTGCCGAAATCACCCCGGACAAGCGTTCCAGGACAGCTGTT 1800 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTTAT 1800 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTTGCTT	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGACGGGATAACGCTGGCGCAAAGCC 2101 GGTCTGACCTTCCTGGTTGACTGATTAAAAACAAACACATGAATGCAGATAAC 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAAACAAACACATGAATGCAGACACCGATTAC 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAAACAAACACATGAATGCAGCACCGATTAC 2161 TCCATCGCAGAAGCTGCCTTTAATAAAAAACAGCGATGACCATCAACGGCCCGTGG	221 GCATG 2221 GCATG 2221 GCATG 2281 AAGGG	
> 6 5 6 5 i	3 8 8 8	g & g	8 8 8	& & & & & & & & & & & & & & & & & & &	& & & ;	4 6 6 6	8 8 8 8	3 8 8 8 8
241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 301 ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 101 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCGGCGGTGCCAATC 420 101	TTCTCGCGCGCACCCTCATGGGTTCATTATCTCTCGGTGGATGACCAGGGTGCCAGGTTCCCCGCGCGCG	CACCCATCAACAGTATTATTATCCCCATGAAGAGGGTAGGGGGTGGAGCATC 600 S41	661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720	81 ATGAGGCATCGTTCCCACTGCGATGCTGCCAACGATGCGACGCGCGCG	ACCATTACCGAGTCCGGGCTGGCGCGTTGGTGCGGGTATATCTCGGTGGGCGCGGTTAACCACCATCAAACAGGGCGCGGTTAACCACCATCAAACAGGGCGCGGTTAACCACCATCAAACAGGGCGGCGGTTAACCACCATCAAACAGGCCGGCGGTTGCTGGCGGCGGTTAACCACCATCAAGGGCCGGGGGGGG	961 GCCTGCTGGGGGAAACCGGTGGGCGGTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 1021 AGGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAAACCACCCTGGGGCCCAATA 1080 1021 AGGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAAAACCACCCTGGCGCCCCAATA 1080 1021 AGGGCAATCAGCTGTTGCCCGTTGGCGAAAAAACCACCCTGGCGCCCAATA 1080 1081 CGCAAACCGCCTTCCCCCGCGGTTGGCCGATTAATGCAGGTTGGTGGAAGGTTT 1140	1081 CGCAAACCGCCTCCCCGCGCTTGCCCGATTCATTAATGCAGCTGGCACAGGTTT 1140 1141 CCCGACTGGAAAGCGGCAGTGAGCGCAACGCATTAATGTGGGTTAGCTACATTAG 1200 1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTATAG 1200 1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTATTAG 1200	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCCAATGCTTCTGGCG 1260

용

ò

g ò 윱

ŝ

8

ò

ద

ò

셤

ò 8 8 음 δ 셤 ò 셤

쉱 ò

ò 8 ઠે g 8 6

ò

```
241 AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGACACCATCGAATGGTGCAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 GTCAATTCAGGGTGGTGAAGTGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Acececcarcacaarrercececcarraarcreececcarcaacreecrace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181 ceceseananagresandececanosconomiantracarrecenacececano
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181 CGCGGGAAAAAGTGGAGGGGAGGGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCCCCTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CCGACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                            FEATURE:

NAME/KEY: CDS

LOCATION: (1528)..(3453)

OTHER INFORMATION: /product = fusion protein MBP Cystatin C BMP-
PEATURE:

NAME/KEY: misc feature
LOCATION: (2689)

OTHER INFORMATION: (Amino acid sequence)
PEATURE:

NAME/KEY: misc feature
LOCATION: (3067)..(3108)

OTHER INFORMATION: /spacer between Cystatin C andBMP-2
PEATURE:

NAME/KEY: misc feature
LOCATION: (3067)..(3108)

OTHER INFORMATION: /spacer between Cystatin C andBMP-2
PUBLICATION INFORMATION:
AUTHORS: Zwick, M B.

ITILE: Expression vector pMal-X, complete sequence
JOUNNAL: Anal. Blochem.
VOLUME: 264

SISSUE: 1998-11-01

PAGES: 87-97

DATE: 1998-11-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 7373;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DATABASE ACCESSION NUMBER: Entrez Nucleotide database/AF031813
DATABASE ENTRY DATE: 2001-05-07
RELEVANT RESIDUES: 1528 - 3453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 2705.8; DB 18; Lengt
Pred. No. 0;
0; Mismatches 22; Indels
                                                                                                                          FEATURE: OTHER INFORMATION: Expression vector pMalc2cchbmp2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82.0%;
                                                                               TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 99.2
Matches 2719, Conservative
              SOFTWARE: Patentin Ver.
                                 SEQ ID NO 1
LENGTH: 7373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-257-384A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                        2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640
                                                                                                                                                                                                                                                                                       2700
                                                                                                                                                                                                                                                                                                                                                                                2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGGAATGTGGTAAGTCCTTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2881 CTGGTGCGCATCAACGCACTCATACTGGCGAGAAAGCCATACAAATGTCCAGAATGTGGC 2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2761 CCGGAATGTGGTAAGTCCTTCAGCGATCCTGGCCACCTGGTTCGCCACCAGCGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC 2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGGC 2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2941 AAGICTITCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACCGGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2941 AAGTCTTTCAGCCAGAGCTCCAGCCTGGTGCCACCCACCAACGTACTCACACCGGGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3121 GACTGCCGCGACCTTGCTCGCCATCAACGCACTACTGGCGAGAAGCCATACAAATGT 3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3181 CCAGAATGTGGCAAGTCTTTCTCCCAATCCAGCATCTCGTCCGGCACCAACGTACTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3001 ccciaidciricicceaalicieciaaciccircaccaaacacccccccaacaccaccacac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3241 ACCGGTAAAAAAACTAGTGGCCAGGCCGGCCAGTACCGCGACGACGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              use after removal of bone tumors
TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                               2461 TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                     AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                      GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT
                                                                                                                                                                                      GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                               AACAACAACAATAACAATAACAACCTCGGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                2701 GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3121 CAGGCCGGCCACCTGGCCAGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                             CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3061 CAGCGTACCCACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3181 CCAGAATGTGGCAAGTCTTCTCTCGGCTGTGACAATCTCGTCCGGCACCAACGTACTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Wiederanders, Bernd
APPLICANT: Maubach, Gunter
TITLE OF INVENTION: Agent for postoperative use
FILE REFERENCE: 2945-101
CURRENT APPLICATION NUMBER: US/10/257,384A
CURRENT APPLICATION NUMBER: PCT/DE 01/01510
PRIOR APPLICATION NUMBER: PCT/DE 01/01510
PRIOR FILING DATE: 2001-04-18
PRIOR FILING DATE: 2000-04-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1, Application US/10257384A Publication No. US20040087524A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-257-384A-1
    2461
                                                                                             2521
                                                                                                                                      2521
                                                                                                                                                                                      2581
                                                                                                                                                                                                                                                                               2641
                                                                                                                                                                                                                                                                                                                           2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2821
                                                                                                                                                                                                                                                                                                                                                                        2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3061
```

ö

Gaps

9

240 240 300 420

480 480

1621 1681 1681 1741 1741	OY 1801 CCGTTACCTGGGATGCCGTACGTTACAACGCCGAGCTGATTGCTTACCGGATGCTGTTTACCGGATGCTGTTTACACGGATGCTGTTTACACGGAACGCTGATTGCTTACCGGATGCTGTTTTTACACGAACGCCAAGATGCTTACCTGGAACGCTGATTGTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAACGCGAACCGGCAAAAAACTGGAACAAAAACTGGAACAAAAACTGGAGAAAAACTGGGAACCCGCCAAAAAACTGGGAACAAAAAACTGGAGAAAAAAAA	Oy 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGGTAAGGCGCGCTGATGTTCAAC	Qy 2041 TATGAAAAGGCAAGTACGACATTAAAGACGTGGGGGTGGATAACGCTGGGGGAAAAGCG CAAAAGCG CAAAAGCG CAAAAGCGCAAAAGCG CAAAAAAACGGCAAAAGCGGAAAAAAAA		QY 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC		2401	QY 2461 ITGGCGAAAGATCAACGACGACGACGACGAGAAAGAGAGAAGAGAGAAGAGAGAGAGAGAGAGAGAGA	Db 2521 CCGAACATCCCGCAGATGTCCGCTTTTTCTGGTATGCCGTGCGTACTGGGTGTTTTTCTCTCGTATCTCTCTGGTGTTTTTCTTCTCGTATCTCTTCTCGTGTGTTTTTCTTCTCGTGTTTTCTTCGTGTGTTTTCGAGCTCGTCGTTCGT	Qy 2641 AACAACAACAATAACAACAACAACACCTCGGGATCGAGGAAGGA
541 CACCCATCAACAGTATTTTTTTCTCCCATGAAGACGGTACGGGCTGGGCGTGGAGCATC 600	721 CGGAACGGGACGGCCTGCCCATGTCCGGTTTTCACAACCTGCCAATGCTGA 780	TGCGCGCATTACCGAGTCCGGGCTGCGCGTGCGGGATATCTCGGTAGTGGGATACG	ACCTGCTGGGGCAAACCAGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGTGA 102	1021 AGGCCATCAGCTGTTGCCCGTCTCACTGGTGAAAAACACCCCGGCGCCCATA 1080 1021 AGGCCATCACTGCCCGTCTCACTGGTGAAAAAACACCACCCTGGCGCCCATA 1080 1021 AGGCCATCACCCGTCTCACTGGTGAAAAAACACCACCCGAGGTTT 1180 1081 CGCAAACCGCCTCTCCCCGGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1140 1081 CGCAAACCGCCTCTCCCCGGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1140	CCCGACTGGAAAGCGGGCAGTGGCCAATTAATGTGAGTTAGCTCACTCA		1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATATGTTTTTGCGCCGACATCATAATTCG 1320 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCGGTTCGGTTTAGGTGTTTTCACA 1500		ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT

9 720 780 780 840

유

```
1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTAACGGCGATAAAAGGCTATAAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620
             481 TIGCIGIGGAAGCIGCCIGCACTAAIGTICCGGCGTTATTICTIGAIGICICIGACCAGA 540
                                                                                                 CACCCATCAACAGTATTATTTTCTCCCCATGAAGACGGTACGCGACTGGGCCGTGGAGCATC
                                                                                                                                                                                                CGCGTCTGCGTCGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGGTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081 CGCAAACCGCCTCTCCCCCGCGCGTTGGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGGGCACCAATGCTTCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cegaaceegaacecaacecarereceartreceartrecaacaacearecaarecear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGGCAGGTCGTAAATCACTGCATAATTCG
                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                            CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961 GCCTGCTGGGGCAAACCAGCGTGGACGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1501 GCACTTCACCAACAAGAACCATAGATTATGAAAATCGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1441 ATTGTGAGGGGATAACAATTTCACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                              541
                                                                                                                  541
                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1261
                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1561
                                                         8
                                                                                                 අු
                                                                                                                                                                ò
                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                       8 6
                                                                                                                                                                                                                                                                                                                                                         8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      상 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  유
                                                                                                                  GENERAL INFORMATION

GENERAL INFORMATION

GENERAL INFORMATION

GENERAL INFORMATION

GENERAL INFORMATION

APPLICANT: GUUSIN-GRAMATICA, FRANCOISE

APPLICANT: DUCOMMUN, BERNARD

ITILE OF INVENTION: METHOD FOR CONTINING HUMAN CDC25 PHOSPHATASES AND METHOD

ITILE OF INVENTION: FOR IDENTIFYING HUMAN CDC25 PHOSPHATASE MODULATORS

CURRENT APPLICATION NUMBER: PCT/FR00/03496

FRIOR FILING DATE: 2000-12-13

FRIOR PLILING DATE: 1999/1572

FRIOR PLILING DATE: 1999/12-14

FRIOR PLILING DATE: 1999/12-12

FRIOR FILING DATE: 2000-05-30

FRIOR FILING DATE: 2000-05-21

NUMBER OF SEQ ID NOS: 14

SSOFTARE: PATENTIN Ver: 2.1

SSQ ID NO S.

LENGTH: 8101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Acececcercecanning and an arrangement of the second of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 ccarcaccarcarragicararaccirircacacritaraccarrarragicacccaaraara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGCCCCCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGCTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 8101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: UM109 / PMAL - Hs Cdc25C strain US-10-149-472-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2; Indels
GGATCCTCCAGTCCCGGCAAGCCGCCGCGCGTGGGAGG 2741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 99.9%; Pred. No. 0;
Matches 2707; Conservative 0; Mismatches 2; II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
```

g ò a g

ठे

g

ઠે a à 음 ઠે 8

8 6

à.

∂

1020

960

900 900 960 1380

a

8 &

रुं है है

g

8 &

g

ठे

셤

ઠ

g

ठे

ò

g

g

ઠે

ઠે

В

8 6 8 6 8 6 8

ઠે

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TJGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGCTGTGGAAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGACGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCGGGAAAAAGTGGAGCGCCGATGGCCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: Description of the artificial sequence: plasmid OTHER INFORMATION: pMAL-c2x
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 19; Length 6648;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5; Indels
                                                                                                                                                       mutations in
                                                                                         Sequence 8, Application US/10343859
Publication No. US20040110161A1
GENERAL INPORMATION:
FRIED TITLE OF INVENTION: Method for detecting muta;
TITLE OF INVENTION: Method for detecting muta;
TITLE OF INVENTION: muclectide sequences;
TITLE REFRENCE: 612, 406-033
CURRENT APPLICATION NUMBER: US/10/343,859;
PRIOR APPLICATION NUMBER: DCT/EP01/09127;
PRIOR FILING DATE: 2000-11-24
PRIOR FILING DATE: 2000-09.
PRIOR FILING DATE: 2000-08.
PRIOR FILING DATE: 2000-08.
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 8
LENGTH: 6648
TYPE: DNA
CORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                         81.8%; Score 2701; D
99.8%; Pred. No. 0;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 99.8 Matches 2704; Conservative
              2701 GGATCCTCT 2709
2701 GGATCCTCT 2709
                                                                   RESULT 8
US-10-343-859-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           දු පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 6 8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      중 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
8
ò
                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2640
                                                                                                                                                                                                                                                                                                                                                       2040
                                                                                                                                                                                                                                                                                                                                                                                                               2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2580
                                                                                                                                                                                                                                       1920
                                                                                                                                                                                                                                                                   1920
                                                                                                                                                                                                                                                                                               1980
                                                                                                                                                                                                                                                                                                                           1980
                                                                                                                                                                                                                                                                                                                                                                                 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGCCAACTGGCCGTTGGCCCTGACATTATCTTCTGGGCACACGGCTTTGGTGGCTAC
                                                                                                                                                                             GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGGAACCCGCCAAAAACCTGGGGAA
                                                                                                                                                                                                                                                                                              GAGATCCCGGCGCCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                               GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                    CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                             TATGABAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCAGCGGTCGTCGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCAGCGGTCGTCGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                         GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                        GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                       GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                         2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTCTGACCTTCCTGGTTGACTTAAAAACAAACAAGATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCATGGTCCAACATCGACACCCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                   GCGGCAACTGGCGCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                       1621
                                                                                                                        1741
                                                                                                                                                    1741
                                                                                                                                                                                                          1801
                                                                                                                                                                                                                                                                  1861
                                                                                                                                                                                                                                                                                                                          1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2641
                                                                   1681
                                                                                               1681
                                                                                                                                                                                1801
                                                                                                                                                                                                                                      1861
                                                                                                                                                                                                                                                                                              1921
                                                                                                                                                                                                                                                                                                                                                     1981
                                                                                                                                                                                                                                                                                                                                                                                1981
                                                                                                                                                                                                                                                                                                                                                                                                             2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2281
```

8 6

8 &

셤

ઠે

TGGCGCGAAAGCG 2100 |||||||||||||| |GGCGCGAAAGCG 2100 NGACACCGATTAC 2160 ||||||||||||| NGACACCGATTAC 2160 TTTGGTGGCTAC 1740 CAACGGCCCGTGG 2220 TACGAGGAAGAG 2460 ||||||||||||| TACGAGGAAGAG 2460 GTGATCAACGCC 2580 |||||||||||||||||||||||||||GTGATCAACGCC 2580 AATTCGAGCTCG 2640 |||||||||||| AATTCGAGCTCG 2640 TATGCGTTCAAG 2040 ||||||||||||||| TATGCGTTCAAG 2040 CTGCCGACCTTC 2280 GTGAAATCATG 2520

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                                                                                                                                                                               1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1740
                                                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1680
                                                                                                                                                                                                                                                                                                                                              1020
                                                                                                                                          840
                                                                                                               780
                                                                                                                                                                       840
                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                     960
                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1681 GCGGCAACTGGCCGATGGCCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC
                                                                                   TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                  961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                    AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCAAACCGCCTCTCCCCGGCGCTTTGGCCGATTCATTAATGCAGCTGGCACGACGACGGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACTTCACCAACAAGGACCATAGGAAAATCGAAGAAGGTAAACTGGTAAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                            CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                           ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                               CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   crescaparatricreapareaecretreacaarraarcareecreeraraarereea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                             CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                           ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                          ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1621
                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1681
                                                                                   721
                                                                                                                                           781
                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                   196
                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1501
                             661
                                                                                                               721
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                            \rac{4}{2}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                         B &
                                                                        ò
                                                                                                         g
                                                                                                                                          ò
                                                                                                                                                                요
                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                   ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                    ; TYPE: DNA; ORGANISM: Artificial sequence; PEATURE:
; FEATURE:
; OTHER INFORMATION: Description of the artificial sequence: pWALC2x-mutS
US-10-343-859-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGTCTCGATGGTAGAACGAAGCGGCGTCGAAGCTGTTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACAACTGGCGGCCAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ceceegaaaaaeregaaeceeceareeceeaecreaarracarreccaaeceeereece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAAGCGGCGGTGCACATC
                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                      Length 9191
                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                 mutations in
                                                                                                                                                                                                                                                                                                                                                                                      19;
                                                                                                                                                                                                                                                                                                                                                                                                                  5,
                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                   Sequence 9, Application US/10343859
Fublication No. US20040110161A1
GENERAL INPORMATION:
TITLE OF INVENTION: Method for detecting mut.;
TITLE OF INVENTION: Method for detecting mut.;
TITLE OF INVENTION: Method for detecting mut.;
TITLE OF INVENTION: Mucleotide sequences;
FILE REFERENCE: 612, 406-633;
CURRENT APPLICATION NUMBER: US/10/343,859;
CURRENT FILING DATE: 2003-11-24
FRIOR APPLICATION NUMBER: 10038237.1
FRIOR FILING DATE: 2000-08-04
NUMBER OF SEQ ID NOS: 52;
SEQ ID NO 9
                                                                                                                                                                                                                                                                                                                                                                                       Score 2698;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                    81.8%;
99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 99.8
Matches 2701; Conservative
                                                                                                                                                                                                                                                                      LENGTH: 9191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                             ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                       Query Match
```

a

셤

ઠે

ઠે

ద

ŝ

g

ò

g ò 셤 ठे g

ઠે

8 8 8

ብ ራ

```
GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 TGGTGTGTCGATGGTAGAACGAAGCGCGCTCGAAGCCTCTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                   CGACACCATGGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                   CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Abbott Laboratories

APPLICANT: Abbott Laboratories

APPLICANT: Patel, Chandu B.

APPLICANT: Patel, Chandu B.

APPLICANT: Patel, Chandu B.

TITLE OF INVENTION: GENERALICALLY ENGINEERED P30 ANTIGEN,

TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF

FILE REFERENCE: 6984.US.01

CURRENT FILING DATE: 2002-10-22

NUMBER OF SEQ ID NOS: 74

SOFTWARE: FateSEQ for Windows Version 4.0

SEQ ID NO 40

LENGTH: 1112
                                                                                                                                                                                                                                                                                                                   Length 7112;
                                                                                                                                                                                                                                                                                                                                            6; Indels
                                                                                                                                                                                                                                                                                                                    DB 18;
                                                                                                                                                                                                                                                             ; LOCATION: (1528)...(3189)
; OTHER INFORMATION: pMBP-c2X-ToxoP30dell1 (52-214aa)
US-10-263-153-40
                                                                                                                                                                                                                                                                                                                  Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                81.5%;
                                                                                                                                                                                                                TYPE: DNA
ORGANISM: Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                            Best Local Similarity Auguston Matches 2694; Conservative
                                                                                                                                                                                                                                                    NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                     음
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ፟
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                          2040
                                                                                                                                                                                                                                                                           2100
                                                                                                                                                                                                                                                                                                   2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2640
                                                                                                                                  GGTCTGACCTTCCTGGTTGACTGATTAAAAACAAACATGAATGCAGACACCGATTAC 2160
                                                                                                                                                                                                                                                                                                                                       TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAAACAGCGATGACCGATCAACGGCCCGTGG 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                          2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2700
                                                                                                                                                                                                                                                                                                                                                                                                                                 2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2580
                                                                                                                  GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                    TATGAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                          GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                  GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                        CGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                      CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                             TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGGCGAAAGATCCACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2461 TIGGCGAAAGAICCACGIAITGCCGCCACIAIGGAAAACGCCCAGAAAGGIGAAAICAIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2401 GAAGCGGTTAATAAAGACAAACCGCTGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAACATCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGCGGTCGTCAGACTGTCGATGAAGCCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2641 AACAACAACAATAACAATAACAACCTCGGGATGGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGATCC 2706
                                      1741
                                                                                        1801
                                                                                                                  1861
                                                                                                                                                                   1921
                                                                                                                                                                                             1921
                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                             1981
                                                                                                                                                                                                                                                                                               2041
                                                                                                                                                                                                                                                                                                                                                                                                                          2221
                1741
                                                                1801
                                                                                                                                           1861
                                                                                                                                                                                                                                                                       2041
                                                                                                                                                                                                                                                                                                                                                                          2161
                                                                                                                                                                                                                                                                                                                                                                                                   2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2461
                                                                                                                                                                                                                                                                                                                       2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2701
                                셤
                                                         8 6
                                                                                                              ò
                                                                                                                                ያ ያ
                                                                                                                                                                                      g
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                             දි දි
                                                                                                                                                                                                                                                                                                                                          셤
              ઠે
                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                     8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                윰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     名
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 6 8 6 8 6
```

ö

Gaps

ö

120

9

180 180 240 240 300 300 360 360 420 420 480 480 540 900 99

661 CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG 720

redroccarracercaccacaaarcecererraeceeecccarraaerrereree

g 8

RESULT 10 US-10-263-153-40 ; Sequence 40, Application US/10263153

1711 GCTCAMTCTGGCCTGTTGGTCAAATCACCCGGAACTAGTTCCAGGACACACTTTTT 1860	RESULT 11 US-10-263-153-30 iSequence 30, Application US/10263153 sequence 30. Application US/10263153 sequence 30. DS20040067239A1 sequence 30. DS20040067239A1 sequence 30. DS20040067239A1 sequence 30. APPLICANT: About Laboratories sequence 30. APPLICANT: Patel, Chandu B. sequence 30. APPLICANT: Ginsburg, Sanford R. sequence 30. APPLICANT: Bliese, Timothy R.
GGGAACGGAACGCCATGGATTGCATGTCCATGTCGATTTCAACAACTAAATTCAGCCGATGA GGGAACGGAAC	1621 ACCGAMTTANGTCACCGTTGAGCATCCGGATAAATTCCCACAGGTT 1680 1621 ACCGAMTTANGTCACCGTTGAGCATCCGGATAAATTCCCACAGGTT 1680 1621 ACCGAMTTANGTCACCGTTGAGCATCCGGATAAACTGGAAATTCCCACAGGTT 1680 1681 GCGGCAACTGGCGATGCCCCTGACATTATCTTCTGGCCACACGACCGTTTGGTGGCTAC 1740 1681 GCGGCAACTGGCGATGGCCTGAATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740 1681 GCGGCAACTGGCGTGGCCTGAATTATCTTCTGGGCACACGCCTTTGGTGGCTAC 1740 1741 GCTCAATCTGGCCTGAAATCACCCCGGACAAAGCGTTCCACGACAGACTGTAT 1800

us-09-765-555b-15.rnpb

```
1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  906
                                                                                                                                            900
                                                                                                                                                                                    960
                                                                                                                                                                                                                          960
                                                                                               TGCGCGCGCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                     GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                  CGCAAACCGCCTCTCCCCGCGCGTTGGGTTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                           AGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1501 GCACTICACCAACAAGGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                         CGCAAACCGCCTCTCCCCGCGCGTTGGCTTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGGCAACTGGCCGTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ccerrraccressargcceracerracaacescaaecrearrecrraccesarcecrerr
                                                       781
                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201
                                                                                                 841
                                                                                                                                     841
                                                                                                                                                                           901
                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1801
                                                                                           8 8
                                                                                                                                                          8
                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                   8 8
                                                                                                                                                                                                                                                                                                                                                                    8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 강 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            상
임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ठे
                                                                                                                                                                                                                                                                                                                                                                                                    ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                               CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGCGCCGTCGCAATIGICGCGGCGATIAAAICTCGCGCCGAICAACIGGGIGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGENERAL DESCRIPTION OF THE CONTROLL OF THE CONTROL OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGTCTGCGTCGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTTCTTGATGTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGAACGGGAACTGCGACTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                            Length 7259;
TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REFERENCE: 6984.US.01
CURRENT APPLICATION NUMBER: US/10/263,153
CURRENT FILING DATE: 2002-10-22
NUMBER OF SEQ ID NOS: 74
SOFTWARE: PASESEQ for Windows Version 4.0
LENGTH: 7259
                                                                                                                                                                                                                                                                                                                                                                                                  ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GIGICICITAICAGACCGITITCCCGCGIGGIGAACCAGGCCAGCCACGIT
                                                                                                                                                                                                                                                                                                                                                                                                6; Indels
                                                                                                                                                                                                                                           NAME/KEY: CDS

LOCATION: (1528)...(3336)

CTHER INFORMATION: pMBP-c2X-ToxoP30del4del8 (83-294aa)

US-10-263-153-30
                                                                                                                                                                                                                                                                                                                                                         DB 18;
                                                                                                                                                                                                                                                                                                                                                       Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 99.8%;
Matches 2694; Conservative
                                                                                                                                                                                    TYPE: DNA ORGANISM: Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                    Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                              FEATURE
```

ద

ò

ద

ò ద ઠે 8 6 8

ठ हे ठ

셤

8 8 8

8 6 8

8 6

8 6

88

ò

셤 ठे

6 ይ

a ⋧

g

6 6 6

g ઠે ያ ያ

g ઠ d ठे

8 & 8

ઠ a ેં

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAAACCCAGTAACGTTATACGATGTCGCGAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                        TIGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                               cceacaccarceaarecrecaaaaccrrrcecegrareccarearecccccegaaga
                                                                                                                                                                                                                                                                            GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGTCTGCGTCTGGCTGGCTTGGCTTAAATATCTCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                   CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                      Gaps
                                                                                                                                                        DB 18; Length 7322;
                                                                                                                                                                                    ö
                                                                                                                                                                                   6; Indels

    i LOCATION: (1528)...(3399)
    j OTHER INFORMATION: pMBP-c2X-ToxoP30dell0 (52-284aa)
    US-10-263-153-35

                                                                                                                                                     Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                                     Query Match
Best Local Similarity 99.8%;
Matches 2694; Conservative
SEQ ID NO 35
LENGTH: 7322
TYPE: DNA
ORGANISM: TOXOPlasma gondii
                                                                          NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                               -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                    н
                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                               1980
                                                                                                           2040
                                                                                                                                          2040
                                                                                                                                                                      2100
                                                                                                                                                                                                    2100
                                                                                                                                                                                                                                 2160
                                                                                                                                                                                                                                                               2160
                                                                                                                                                                                                                                                                                            2220
                                                                                                                                                                                                                                                                                                                          2220
                                                                                                                                                                                                                                                                                                                                                        2280
                                                                                                                                                                                                                                                                                                                                                                                      2280
                                                                                                                                                                                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2700
                                                                             1980
                 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461 TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2581 GCCAGGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCCCGGTGATGTTCAAC
                                                                                                                                                                                      TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                               GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                              GAGATCCCGCCCTGGATAAAGAACTGAAAGCGAAAGGTAAGACGCGCTGATGTTCAAC
                                                                                                          CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                        CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                           TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                        2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACACGGTTAC
                                                                                                                                                                                                                                                                                            TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                        GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGGGTCAACCATCCAAACCGTTCGTTGGTGGGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                      TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
 Sequence 35, Application US/10263153
Publication No. US20040067239A1
GENERAL INFORMATION:
APPLICANT: Abbott Laboratories
APPLICANT: Maine, Gregory T.
APPLICANT: Patel, Chandu B.
APPLICANT: Gineburg, Sanford R.
APPLICANT: Bliese, Timothy R.
TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REFERENCE: 6984.US.OI
CURRENT APPLICATION NUMBER: US/10/263,153
CURRENT FILING DATE: 2002-10-22
NUMBER OF SEQ ID NOS: 74
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-263-153-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2641
                                                                                                                                        1981
                                                                                                                                                                                                   2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2641
                                               1921
                                                                            1921
                                                                                                           1981
                                                                                                                                                                      2041
                                                                                                                                                                                                                                 2101
                                                                                                                                                                                                                                                             2101
                                                                                                                                                                                                                                                                                            2161
                                                                                                                                                                                                                                                                                                                          2161
                                                                                                                                                                                                                                                                                                                                                        2221
                                                                                                                                                                                                                                                                                                                                                                                      2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
```

g

ठे g

1991 CTGCAAGAACCGTACTTCACCTGCCCGCTGATTCCTGCTGACGCGCTTTCAAG 2040	RESULT 13 US-10-263-153-25 Sequence 25, Application US/10263153 Publication No. US20040067239A1 Publication No. US20040067239A1 GENERAL INFORMATION: APPLICANT: Maine, Gregory T. APPLICANT: Patel, Chandu B. APPLICANT: Bliese, Timothy R. TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN, TITLE OF INVENTION: HWROVED ANTIGEN COCKTAIL, AND USES THEREOF FILE REFERENCE: 6984.US. Ol. CURRENT APPLICATION NUMBER: US/10/263,153 NUMBER OF SEQ ID NOS: 74 SOFTWARE: FastSEQ for Windows Version 4.0 LENGTH: 7352 LENGTH: 7353 LENGTH: 7354 LENGTH: 7354 LENGTH: 7355 LENG
901 ACGATACCGAAGACAGCTCATGTTATATCCGGCCGTTAACCACCATCAACAGGATTTTC 960 901 ACGATACCGAAGACAGCTCATGTTATATCCGGCCGTTAACCACCATCAACAGGATTTTC 960 901 GCCTGCTGGGGCAAACCAGCTCATGTTATATCCGGCCCATCAACAGGATTTTC 960 901 GCCTGCTGGGGCAAACCAGCTGAACCTTCTCTCACACACCATCCAACAGGATTTTC 960 901 GCCTGCTGGGGCAAACCAGCTGAACCTTCTCTCACACACTCTCTCAGGCCCAGTGA 1020 1021 AGGGCAATCAGCTGTTGCCCGTTCACTGGTGAAAAAACCACCTTCTCAGGCCCAATA 1080 1031 AGGGCAATCAGCTTGCCCGTTCACTGGTGAAAAAAAACCACCTTGGCGCCCAATA 1080 1041 CGCAAACGGCCTTTGCCCGTTGCTGAATAATATATATATA	1621 ACCGANTTANGTCACTTGAGCATCCGGTAAACTGGAGGAATTCCCACAGGTT 1680

us-09-765-555b-15.rnpb

Db 961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1021 1021 AGGGCAATCAGTTTGCCCGTCTCACTGGTGAAAAGAAAA	Oy 1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT 1140	Qy 1141 CCCGACTGGAAAGCGGGCAGTGAACGCAATTAATGTGAGTTAGCTCACTCA	1201	Qy 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320	Qy 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380	Qy 1381 CTGGCAARTATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440	1441	QY 1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAAGGTAAACTGGTAATCTGG 1560	QY 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGCTAAGAAATTCGAGAAAGGT 1620	QY 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680	QY 1681 GCGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGCTTTGGTGGCTAC 1740	Qy 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800	Qy 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860	Qy 1861 GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920	OY 1921 GAGATCCCGCCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGACGCGCGCTGATGTTCAAC 198	Qy 1981 CTGCAAGAACCGTACTTCACCTGGCGGTGATTGCTGACGGGGGGTTATGCGTTCAAG 2040	Oy 2041 TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100
	Caps 0; AGAGA 60		18	TGGCAC 240			4 4								CAA 840 ACG 900 0		10
a) 3; Length 7352;	O; MIBWACCHEB 5; INCEIS 0; SCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGB	AGAGTZ AGAGTZ AGAGTZ	GIGICTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCA	GGGGGAAAAAGTGGAAGCGGGATGGCGGAGCTGAATTACATTCCCAACGGG 	AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTTGGC 		TGGTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCT 	TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGG 	TTGCTGTGGAAGCTGCCTGCACTATGTTCCGGCGTTATTTCTTGATGTCTCTGATTTTCTTGATGTCTCTCTGTTTTCTTGATGTCTCTCTGATGTTCCTCTGATGTTCCTCTGATGTTCCTCTCTGATGTTCCTCTCTCT	CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGF	TGGTCGCATTGGGTCACCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGT 	CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGC	CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCCATGCAAA 	ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGC		ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGG 	GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGG
) OTHER IN US-10-263-15 Query Matc	Qy Db	9 AQ	Oy 121 Db 121	Qy 181 Db 181	Oy 241 Db 241	Qy 301 Db 301	Qy 361 Db 361	Oy 421				Qy 661 Db 661		Oy 781			Qy 961

300

360

420 420 480

540 480

540 600 600 999 999 720 720 780 780 840 840 900 900 960

```
GTGTCTCTTATCAGACCGTTTCCCGGGTGAACCAGGCCAGGCTTTCTGCGAAAA
                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                             AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGGGCGTGGAGCATC
                                                                                                                                                                          CGCGGGGAAAAAGTGGGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                          AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                              ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                      TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                     601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGAGGGCATCGTTCCCACTGCGATGCTGGCTAGCGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGGATACTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                    61
                                                                             61
                                                                                                       121
                                                                                                                              121
                                                                                                                                                        181
                                                                                                                                                                                 181
                                                                                                                                                                                                           241
                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                         8
                                                                    음 상 음
                                                                                                                                                6 8 6 8 6 8 6
                                                                                                                                                                                                                                                                                                                                   원 상 원
                                                                                                                                                                                                                                                                                                                                                                                                                8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                              2220
                                                                                                                2280
                                                                                                                                                                                            2340
                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                                                            2520
                                                                                                                                                                                                                                                                                                                                                                               2580
                                                                                                                                                                                                                                                                                                                                                                                                        2580
                                                                                                                                                                                                                                                                                                                                                                                                                                 2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                           2640
                                                                                                                                                                                                                                                                                   2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                                                                                     2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                       GGTCTGACCTTCCTGGTTGACTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                             AAGGGTCAACCATCCAAACCGTTGGTTGGTGGTGGTGGTATTAACGCCGCAGT
                                                                                                                                                                                                                                2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGAAGGTCTG
     GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                         GCATGGTCCAACATCGACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                        TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                             GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                       TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                       2461 TIGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                         CCGAACATCCCGCAGAIGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                           GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCAGCGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                     GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                         2641 AACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 20, Application US/10263153
; Sequence 20, Application US/10263153
; Publication Wo. US20040067239A1
; GENERAL INFORMATION:
; APPLICANT: Abbott Laboratories
; APPLICANT: Maine, Gregory T.
; APPLICANT: Bliese, Timothy R.
; TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
; TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
; TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
; TITLE OF INVENTION: MARROWED. 103.01
; CURRENT APPLICATION NUMBER: US/10/263,153
; CURRENT FILING DATE: 2002-10-22
; WUMBER OF SEQ ID NOS: 74
; SOFTWARE: FastSEQ for Windows Version 4.0
; ELEVATH: 7370
; TANDE: NO. 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    h NAME/KEY: CDS
CCATTON: (1528)...(3447)
COTHER INFORMATION: pMBP-C2X-Toxo30del3C (52-300aa)
US-10-263-153-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
81.5%; Score 2690.4;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Toxoplasma gondii
                                                                                                                                                                                       2281
                                                                                                                                                                                                                2341
      2101
                              2101
                                                        2161
                                                                                 2161
                                                                                                                                     2221
                                                                                                                                                              2281
                                                                                                                                                                                                                                                                   2401
                                                                                                           2221
                                                                                                                                                                                                                                                                                                                       2461
                                                                                                                                                                                                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                                                                                                                          2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2641
                        셤
     ઠે
                                              8 6
                                                                                                   දු පු
                                                                                                                                                                              8 8
                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                       윱
                                                                                                                                                                                                                                                                                                                   $ B
                                                                                                                                                   8
                                                                                                                                                                                                                                                         ठे
                                                                                                                                                                                                                                                                                                                                                                    र्व के क
                                                                                                                                                                                                                                                                                                                                                                                                                                            용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
```

DD 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGCGAAACGCATGACCATCAACGGCCCGTGG 2221 GCATGGTCCAACACGCCACACACGAAACGCAAATGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	RESULT 15 US-10-263-153-61 Sequence 61, Application US/10263153 Publication No. US20040067239A1 SEQUENCE 61, Application US/10263153 Publication No. US20040067239A1 SEDICANT: Maine, Gregory T. APPLICANT: Maine, Gregory T. APPLICANT: Gineburg, Safford R. APPLICANT: Gineburg, Safford R. APPLICANT: Gineburg, Safford R. TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN, TITLE OF INVENTION: GENETICAL ENG
	1621 ACCGGAATTAAAGTCACCGTTCAGCATCACGATAAACTGGAAGAATTCCCACAGGTT

us-09-765-555b-15.rnpb

```
2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCTAGCGCTGAAGTCTTACGAGGAAGAG 2460
2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                              2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 2461 TTGGCGAAAGATCCACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                           8 6 8 6 8 6 8 6 8 6 8
```

Search completed: August 3, 2005, 04:21:52 Job time : 1319.2 secs



Н

Wed

```
6361
  36.3
1199.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1, Appli
Sequence 1, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 5, Appli
Sequence 21, Appli
Sequence 21, Appli
Sequence 21, Appli
Sequence 35, Appli
Sequence 785, Appli
Sequence 786, Appli
                                                                                2, 2005, 10:29:49 ; Search time 352.4 Seconds (without alignments) 15322.682 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                            3300
1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
                                                                                                                                                                                                                                                                                                                                                 Issued Patents NA:*

1: /cgn2_6/ptodateal/lina/5A_COMB.seq:*

2: /cgn2_6/ptodateal/lina/6A_COMB.seq:*

3: /cgn2_6/ptodateal/lina/6A_COMB.seq:*

4: /cgn2_6/ptodateal/lina/6B_COMB.seq:*

5: /cgn2_6/ptodateal/lina/PCTUS_COMB.seq:*

6: /cgn2_6/ptodateal/lina/backfiles1.seq:*
             version 5.1.6
- 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                  1202784 seqs, 818138359 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                            sw model
                                                                                                                                                                              IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
             GenCore
Copyright (c) 1993
                                                            nucleic search, using
                                                                                                                                                                                                                                                                length: 0
length: 2000000000
                                                                                                                                US-09-765-555B-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                    August
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2700
2700
1417.60
1362
11362
11362
11369.2
111999.2
111999.2
111999.2
111999.2
111999.2
111999.2
111999.2
                                                                                                                                                                                                                                                                  seq
seq
                                                                                                                                                                              Scoring table:
                                                            OM nucleic -
                                                                                                                                                                                                                                                                Minimum DB
Maximum DB
                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                                                                                                                                   Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Result
No.
                                                                                    Run on:
```

Sequence 7, Appli Sequence 2, Appli Sequence 2, Appli Sequence 5, Appli Sequence 4, Appli Sequence 213, Appli Sequence 213, Appli Sequence 264, Appli Sequence 254, Appli		Length 7475;
3 US-09-503-222-7 2 US-08-125-462-2 2 US-08-125-462-5 2 US-08-125-462-5 2 US-08-125-462-5 3 US-09-128-314-4 3 US-09-128-314-4 4 US-09-072-596-208 4 US-09-072-596-208 4 US-09-28-849-9 4 US-09-28-849-9 4 US-09-643-597-254 4 US-09-643-597-254 4 US-09-643-597-254 4 US-09-643-597-254 5 US-09-643-597-254 6 US-09-643-597-254 7 US-09-66-4218-254 8 US-09-630-9408-254 8 US-09-630-9408-254 8 US-09-128-314-3 3 US-09-128-314-3	ALIGNMENTS 6 Derivatives Inc. 1.0, Version #1.25 1,036 1,036 1,4430/073	2700; DB 2;
6361 3 US-09 6727 2 US-08 6727 2 US-08 6739 2 US-08 7659 3 US-09 7676 4 US-09 7676 4 US-09 8031 3 US-09 8031 3 US-09 8031 3 US-09	plication US/08971036 6684 AATION: Attwood, Michael R Hurst, David N Jones, Philip S Kay, Paul B Raynham, Tony M Wilson, Francis X VENTION: Hoffmann-La Roche Inc 340 Kingsland Street tiley U.S.A. U.S. U.S	81.8%; Score
	Attwo Attwo Attwo Attwo Attwo Attwo Rayn Rayn Rayn Rayn Rayn Rayn N.J. N.J. N.J. N.J. N.J. N.J. N.J. N.J	itch
00000000000000000000000000000000000000	RESULT 1 US-08-971-036-1 Sequence 1, A Patent No. 58 GENERAL INFO APPLICANT: COUNTRY: COUNTRY: COUNTRY: COUNTRY: CONTRY: CON	Query Match

1021 AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA 108 1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCGATTCATTAATGCAGCTGGCACGACGGTT 114 1081 CGCACTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 114 1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAATTAATGTGAGTTAGCTCACTCA	1261 1321 1321 1381	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGTG	1561 A 1561 B 1561 A 1621 A 1621 A		1801 CCGTTTACCTGGGATGCCGTACGATGCGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGGTAAGGTA	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGGGGATAACGCTGGCGGAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGGGGGG
8 8 8 8 8 8 8	6 6 6 6	8 & 8 & 8	8 6 8 6	90 90 90 90	2 6 2 2	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8 & B
Best Local S Matches 2700 1 1 61 61 121			CGCGCAACGGGTCAGTGGGCTGATCATTAACTATCGGCTGGATGACGGGATGCCAGATGCCAGATGTGCCAGGATGCCAGATGTGCCAGGATGCCAGATGTCCAGGATGCCAGATGTCCAGGATGTCCTGACCAGATGTTCTTGATGTTCTTGACCAGATGTTCAGGAAGCTGCCTGC	601 IGGTCGCATTGGGTCACCGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGT 601 IGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGT 601 IGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGT 661 CGCGTCTGCGTCGGCTGGCTGGCAAATAATATCTCACTCGCAATCAAATTCAGCG 661 CGCGTCTGCGTCTGGCTGGCTGGCGTAAAAAATATCTCACTCGCAATCAAATTCAGCC		TGGGGGCATTACCGAGTCCGGGCTGGGGTTGGTGCGATATCTCGGTAGTGGGATACG	QY 961 GCCTGCTGGGGCDAACCAGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGGGGTGA 1020 Db

원

ð

셤 ò 원 ઠે

ò

셤

셤

ઠે

유

ò

a ò a

8

g

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCGTGTGATGATGGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181 CGCGGGAAAAAGTGGAAAGCGGCGGTGGCGGGGGGGGTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGCCCCCCCCAAATTGTCCCCGCCATTAAATCTCGCCCCGATCAACTGGGTGCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                  CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                               Length 7475;
                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                               DB 3;
                                                                                                                                                                                                                                                                                             81.8%; Scc. 100.0%; Pred. No. v, 100.0%; Pred. No. v, 100.0%; Mismatches
    RAN 4430/073
REFERENCE/DOCKET NUMBER: RAN
TELECOMMUNICATION INFORMATION:
TELEPHONE: (973) 235-4387
TELEFAX: (973) 235-2363
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 7475 base pairs
                                                                                                                                                    TYPE: nucleic acid
STRANDENNESS: double
TOPOLOGY: circular
MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 2700; Conserv
                                                                                                                                                                                                                                                  ; HYPOTHETICA
US-09-096-570-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                               2400
                                                                                                                                                                                                                                                                                                                                                                           2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2640
                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                             2340
                                                                                                                                                                                                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2641 AACAACAACAATAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTCAGAATTC 2700
                    GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                  2401 GAAGCGGTTAATAAAGACAAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGGGGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                         GAAGCGGTTAATAAAGACAAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCATGGTCCAACATGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KESULT 2
US-09-096-570-1
Sequence 1, Application US/09096570
Factor No. 6018020
GENERAL INFORMATION:
APPLICANT: Atwood, Michael R
APPLICANT: Atwood, Michael R
APPLICANT: Ayahlaw, Tony M
APPLICANT: Ray, Paul B
APPLICANT: Ray, Paul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: N.J.

COUNTRY: U.S.A.

ZIP: 07110

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: PatentIn Release #1.0, Version #1.

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/096,570

FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Hoffmann La Roche Inc.
STREET: 340 Kingsland Street
CITY: Nutley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/971,036
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Kreisler, Lewis J
REGISTRATION NUMBER: 38522
                                                                                                                                                                                               2281
                                                                                                                                                                                                                                           2281
                                                                  2161
                                                                                                             2221
                                                                                                                                                      2221
                                                                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                         2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2521
```

Oy 1921 GAGATCCCGGCGCTGGATAAAGAACTCAAAGGCGAAAGGTGAGCGCGCTGATGTTCAAC 1980	Oy 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGGCGGGGGTTATGCGTTCAAG 2040	QY 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 DD 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100	Qy 2101 GGTCTGACTTGGTTGACCTGATTAAAAACAAACATGAATGCAGACACCGATTAC 2160 Db 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAAACA	OY 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCGTGG 2220 Db 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220	2221	QY 2281 AAGGGTCAACCATCCAAACCGTTGGTGGCTGAGGGCAGGTATTAACGCCGCCAGT 2340 Db 2281 AAGGGTCAACCATCCAAACCGTTGGTTGGCTGAGGCGCAGGTATTAACGCCGCCAGT 2340	QY 2341 CCGAACAAAGGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGATGATGTTG 2400 Db 2341 CCGAACAAAGGCTGCCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGATGATGTTG 2400	OY 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	OY 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAAACGCCCAGAAAAGGTGAAATCATG 2520	QY 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580 Db 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	Qy 2581 GCCAGCGGTCGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 Db 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	OY 2641 AACAACAACAATAACAATAACAACATCGGGGATCGGGAAGGATTTCAGAATTC 2700 Db 2641 AACAACAATAACAATAACAACAGGATCGGGATCGAGGAAGGA	RESULT 3 US-09-265-617B-1 ; Sequence 1, Application US/09265617B	; Patent No. 6372883 ; GENERAL INFORMATION: ; APPLICANT: Attwood, Michael R. ; APPLICANT: Hurst, David N.	APPLICANT: Kay, Paul B. ; APPLICANT: Raynham, Tony M. ; APPLICANT: Raynham, Tony M.	; TILLE REFERENCE: 20052 antiviral Medicaments ; FILE REFERENCE: 20052 antiviral medicaments ; CURRENT APPLICATION NUMBER: US/09/265,6178 ; CURRENT FILING DATE: 1999-03.10	FAION FILING DATE: 1998-03-30; NUMBER OF SEQ ID NOS: 24; SOFTWARE: Patentin Ver. 2.0; SEQ ID NO 1
841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900	GATTTTC	GCGGTGA GCGGTGA	AGGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA 108	CAGGITT CAGGITT	CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCA	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260 	1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGGAGGTCGTAAATCACTGCATAATTCG 1320 	TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 138	GTGTGGA 14 GTGTGGA 14	1441 ATTGTGAGCGGATAACAATTTCACACGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 	AATCTGG AATCTGG	GAAAGAT GAAAGAT	1621 ACCGGAATTAAAGTCACCGTTGAGCAFCCGGAFAACTGGAAGAGAAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCGCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCGTAC 1740 	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCGATGGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920

요

ठे

à

g à 음 ठ පු ò g 셤

કે

g

ò 용 ⋧ 용 ઠે 셤 ò 용

ò

```
CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC 1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1444 GICTCTTATCAGACCGTTTCCCGCGTGAACCAGGCCAGCCACGTTTCTGCGAAAACG 1385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                783 GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG 842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1564 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGATGATAGCGCCCGGAAGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1264 GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1024 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1504 CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1144 CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1084 GCrGrGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGGAAAAAGTGGAAGCGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCGCCCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCGCATTGGGTCACCAGCAAATCGCGGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      904 CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAACGGGAAGGCGACTGGAGTGCCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    844 GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       543 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 3; Length 5926;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6
                                                                                                                                                                                                                                                                                                        LENGTH: 5926 base pairs
TYPE: nucleic acid
STRANDEDMESS: single
TOPOLOGY: circular
MOLECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "pEM delta R.adj to 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
43.0%; Score 1417.6;
Best Local Similarity 98.6%; Pred. No. 0;
Matches 1455; Conservative 0; Mismatches
       NAME: Brown, Anne
REGISTRATION NUMBER: 36,463
REFERENCE/DOCKET NUMBER: 5789-3
TELECOMMUNICATION INFORMATION:
TELEPRAK: 919 420 2205
TELEPRAK: 919 881 3175
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-027-169-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2340
CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2641 AACAACAACAATAACAATAACAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GOTICTION CONTROLL CONTROL 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCAGGGGTGGTCGTCAGACTGTCGAGGCCCTGAAAGACGCGCGCAGACTAATTCGAGCTCG
                                                                                                                                                      2041 TATGAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG
                                                                                                                                                                                                                             GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAAGACATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                               TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOSEPHOLE STATES APPLICATION OF SECURITION OF SECURITIES OF SECURITION O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-027-169-3/c
                                                                                                                                                                                                                                                                                                        2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                              2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                                                                                                                                                                                                                             2101
                                                                                                                                                                                                                                                                                                                                                                                   2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2641
```

œ

g ò ద S 8

ò g ठे व ठे

g à 셤

```
GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT 1285
                                                                                                                                                                                                                                                                                                                                  1646 GAGGCATTGTTTCCACTGCGATGCTGGTTGCCAACGATGGCGCTGGGCGCAATG 1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                               GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAACGGGAAGGCGACTGGAGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1706 CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGGATATCTCGGTAGTGGGATACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1826 CTGCTGGGGCAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCGG
                                                                                                                                                                                                         GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCGTGTAAAGCGGCGGCGGTGCAATCTT
                                                                                                                                                                                                                                                                                                      CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                      GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Greecatressicaccada a rescensiva de contra de c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGATATCTCGGGTAGTGGGATACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAACGGGAAGGCGACTGGGGTGTCCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1766 GATACCGAAGACAGCTCATGTTATATCCCGCCGTCAACCACCATCAACAAGATTTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2006 CGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAG--CGCGAATTGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1203 ACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2064 TGAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCACCATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1323 TCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1083 CAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCC
                                                                                                                                                            1166
                                                                                                                                                                                                                                                      1226
                                                                                                                                                                                                                                                                                                                                                   1286
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               903
                                                                                                              303
                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                      423
                                                                                                                                                                                                                                                                                                                                                                                                   483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1263
                                                                                                         8
                                                                                                                                             g
                                                                                                                                                                                            ò
                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                  8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                    8 & 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 & B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                දු දු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3, Application US/09640882
| Betent No. 6720142
| GENERAL INFORMATION:
| APPLICANT: Hall, Barry G. |
| TITLE OF INVENTION: RESISTANCE GENES AND USE THEREOF TO SCREEN FOR DRUG |
| TITLE OF INVENTION: RESISTANCE GENES AND USE THEREOF TO SCREEN FOR DRUG |
| TITLE OF INVENTION: REPEICACY |
| FILE REFERENCE: 176/60851 |
| CURRENT APPLICATION NUMBER: US/09/640,882 |
| CURRENT APPLICATION NUMBER: 06/149,813 |
| PRIOR PILING DATE: 1999-08-19 |
| NUMBER OF SEQ ID NOS: 17 |
| SEQ ID NO 3 |
| LENGTH: 5201
1322
                                                                                                                                                                                                                                                                                                                                                                                                                                                           925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                    AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                   2006 CGACTGGAAAGCGGCAAGTGAACGCAATTAATGTGAGTTAA--CGCGAATTGATC
                                                                                                                                                                                                                                                                ACATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                           2124 AGGCAGCCATCGGAAGCTGTGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                      2064 IGAAITCICAIGITIGACAGCITAICAICGACIGCACGGIGCACCAAIGCITCIGGGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATGATAGCGCCCGGAAGAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           183 CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .;
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 plasmid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 4; Length 5201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
41.3%; Score 1362; DB 4; Length 5
Best Local Similarity 99.1%; Pred. No. 0;
Matches 1380; Conservative 0; Mismatches 10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: pACSE3
US-09-640-882-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1383 GGCAAATATTCT 1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 6
US-09-640-882-3
                                                                           1083
                                                                                                                      1946
                                                                                                                                                                      1143
                                                                                                                                                                                                                                                                1203
                                                                                                                                                                                                                                                                                                                                                                1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ო
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           986
```

1465

1585

1645

2002

8 6 8 6

ò ద

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1080
                                                                                                                                                                                     2742
                                                                                                                                                                                                                                                                                                                                                                                                                          2862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCGACTGGAAAGCGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTATTAG 1200
                                                                2682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                     2623 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                          2743 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2923 TGGTGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3223 GGGTCTGGGTTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGAACGGGAAAGGCGACTGGCATGTCCGGTTTTCAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3403 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAGCAACCCCCGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3583 AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3643 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                  241 AACAACTGGGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3043 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                           ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGTAAAGCCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                                                                                          2803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
         61
                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                   Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                        ઠે
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                    RESULT 7
US-08-778-717-5
US-08-778-717-5
Sequence 5, Application US/08778717
Sequence 6, Application US/08778717
Sequence 7
Sequence 7
Sequence 7
Sequence 7
Sequence 8
Sequenc
                                        2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 2622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 36.5%; Score 1204; DB 4; Length 4557; Best Local Similarity 100.0%; Pred. No. 0; Matches 1204; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GRGANISM: E. COLI
STRAIN: BL21 (DE3)
FUBLICATION INFORMATION:
AUTHORS: NOBUTUKI FUJII ET AL,
TITLE: FUSED DNA SEQUENCE, FUSED PROTEIN EXPRESSED
TITLE: PROM SAID FUSED DNA SEQUENCE AND METHOD OF
TITLE: PROM SAID FUSED DNA SEQUENCE AND METHOD OF
TITLE: REPRESSING SAID FUSED PROTEIN
RELEVANT RESIDUES IN SEQ ID NO: 5: FROM 1 TO 4557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: TALADLE FORM TARES FLORY disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PACEDIN PC-DOS/MS-DOS SOFTWARE: PACEDIN BATA: PC-DOS/MS-DOS SOFTWARE: PACEDIN BATA: PC-DOS/MS-DOS SOFTWARE: PACEDINO BATA: PAPLICATION NUMBER: US/08/778,717 FLING DATE: 12-DEC-1996 PRIOR APPLICATION DATA: APPLICATION NUMBER: JB-DEC-1995 ATTORNEY-AGENT INFORMATION: NAME: OBLOW, NORWAN F. TELEPROME. 70.31-13.3000 PRICECOMMUNICATION INPORMATION: PACEDINA PORTAL PACEDINA PAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: circular
MOLECULE TYPE: other nucleic acid
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: 5: SEQUENCE CHARACTERISTICS: LENGTH: 4557 base pairs TYPE: nucleic acid STRANDEDNESS: double
                                                                                               GGCAAATATTCT 1394
                                                                                                                                                    2244 GGCAAATATTCT 2255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: U
                                                                                               1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2563
                                     2184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                       g
                                                                                         ò
```

유 ò 윱

```
963 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1023 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAGAAAACCACCTGGCGCCCCAATA 1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG 1200
                         243 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCCACCTCCAGTCTGGCCCTGC 302
                                                                                                                                                               Acececcercecaaarrercecescearraaarcreececcearcaacreecreecages 362
                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      903 ACGATACCGAAGACACTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 962
                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TIGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCATCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTTCTTGATGTCTCTAACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              783 ATGAGGGCATCGTTCCCACTGCGATGCTTGCCAACGATCAGATGGCGCTGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGGCATCCTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      843 TGCGCGCCATTACCGAGTCCGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAAGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1083 cácadacciócciócciócciócciócción para constructor de construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
US-08-487-283A-18/c
US-08-487-283A-18/c
Sequence 18, Application US/08487283A
Patent No. 6355245
GENERAL INFORMATION:
APPLICANT: Evans, Mark J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1203 GCAC 1206
                                                                                             301
                                                                                                                                                               303
                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                    363
                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                          423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1201
                                                                                   ò
                                                                                                                                                       a
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
121 GIGICTCTIATCAGACCGITTCCCGCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GIGHT GENERAL CAGACCOTTTCCCCCCCTGCACCAGCCCACCCACCTTTCTGCGAAAA 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/08148675A
| Patent No. 5506121
| GENERAL INFORMATION: SEPTIME SCHMIGH, Thomas APPLICANT: SKETTA, ATNE; Schmidt, Thomas TITLE OF INVENTION: STREPTAVIDIN TITLE OF INVENTION: STREPTAVIDIN NUMBER OF SEQUENCES: 2
| CORRESPONDENCE ADDRESS: ADDRESSE: Relfe & Lynch STRETT: 805 Third Avenue CITY: New York City STATE: New York City COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1; Length 3832;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 360 kb storage
COMPUTER: IBM PS/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36.4%; Score 1200.8; 99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: LEFT PS/ COMPUTER: COMPUTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 99.8'
Matches 1202; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGIA:
TYPE: nucleic acid
erranneDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                        1201 GCAC 1204
                                                                                                                                                                             3763 GCAC 3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS
TOPOLOGY: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10022
                                                                                                                                                                                                                                                                               RESULT 8
US-08-148-675A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-148-675A-2
                                           3703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
```

셤 ò 요 ò 유 ò ద 8.

```
3971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4271
                                                                                                                                                                                                                                                                                                                                                                      4151
                                                                                                                                                                                                                                                                                                                                                                                                                                         4091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3671
                       4451
                                                                                        4391
                                                                                                                                                            4331
                                                                                                                                                                                                                                                                                                   4211
                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                 909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3850 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCTGAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4390 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                 4330 TIGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                        4210 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                          4150 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4090 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCGCGCCATTACCGAGTCCGGGCTGGGCGTTGGTGCGGTATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3970 FICECCCCATTACCGAGTCCGGGCTGCGCGTTGGGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3730 CGCAAACCGCCTCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                             4450 TGGTGGTGTCGATGGTAGAACGAGCGGGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAAATCGCGCTTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAAGGCGGTGA
                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                              TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 10
PCT-US96-05611A-21/C
; Sequence 21, Application PC/TUS9605611A
; GENERAL INFORMATION:
; APPLICANT: Mueller, John P.
; APPLICANT: Lenardo, Michael J.
APPLICANT: Matis, Louis A.
; APPLICANT: Matis, Louis A.
; APPLICANT: Meller, Eileen Elliott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3610 GCAC 3607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAC 1204
                                                                                                                                                                                                                                                                                                   4270
                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                       4510
                                                                                                                              421
                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                          g
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                    요
                                                                                                                        8
                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4630 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 4571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GIGICTCTIAICAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4810 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4750 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGGGBAAAAGTGGAAGCGGCGATGGCGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1570 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
APPLICANT: Matis, Louis A.
APPLICANT: Mucller, Eileen Elliott
APPLICANT: Nye, Steven H.
APPLICANT: Noilins, Scott
APPLICANT: Rother, Russell P.
APPLICANT: Springhorn, Joremy P.
APPLICANT: Springhorn, Joremy P.
APPLICANT: Thomas, Thomas C.
APPLICANT: Wilkins, James A.
TITLE OF INVENTION: OF INPLAMMATORY DISEASES
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Seth A. Fidel
STREET: 25 Science Park (Alexion)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 3; Length 5248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3; Indels
                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.4Mb storage
COMPUTER: Macintosh Cetris 610
OPERATING SYSTEM: System 7
SOFTWARE: WordPerfect 3.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,283A
FILING DATE: June 7, 1995
RIDRA APPLICATION DATA:
APPLICATION NUMBER: US/08/487,283A
FILING DATE: JUNE 7, 1994
ATTORNEY/AGENT INFORMATION:
NAME: Seth A. Fidel.
REJESTRATION NUMBER: 38,449
REJESTRATION NUMBER: 38,449
REJESTRATION NUMBER: 38,449
REJESTRATION NUMBER: 38,449
REJESTRATION NUMBER: 31,449
REJESTRATION NUMBER: 31,449
REJESTRATION NUMBER: 31,449
REJESTRATION STORAGE OF TELEGOMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFPAX: (203)772-3655
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 5248 base pairs
TYPE: Nucleic Acid
STANDENESS: Double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: Circular
MOLECULE TYPE: Other nucleic acid
DESCRIPTION: DET Trc SO5/NI
DESCRIPTION: prokaryotic expression vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              36.3%; Score 1199.2; 99.8%; Pred. No. 0; Nismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 99.8
Matches 1201; Conservative
                                                                                                                                                                                                                                                                                   Connecticut
: USA
                                                                                                                                                                                                                                                                 CITY: New Haven
                                                                                                                                                                                                                                                                                                                  ZIP: 06511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
US-08-487-283A-18
                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

```
4510 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 4451
                                                                                                                                             regregrercearegraceaeceaecerceaaecereraaaeceeceerecaere
                                                                                                                                                                                                                                                                                                                                                                                                                                             4031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3790 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAGAAAAAACACCCCTGGCGCCCCAATA 3731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAAGCCTGTAAAGCGGCGGTGCACAATC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGGCGTCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4030 ATGAGGCATCGTTCCCACTGCGATGCTGCTTGCCAACGATCAGATGGCGCTTGGCGCAA
                                                                                                                       TTCTCGCGCAACGCGTCAGTGAGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                               TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                              TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3970 TGCGCGCCATTACCGAGTCCGGGCTCGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3850 GCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAAGCGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1730 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                   regredearragereaccadeaareaccacrerragecagececarraagrrereres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           961 GCCTGCTGGGCCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCAAACCGCCTCCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 35, Application US/10263103
Patent No. 6821723
GENERAL INFORMATION:
APPLICANT: AVENTIS PASTEUR
APPLICANT: El Habib, Raphaelle
APPLICANT: El Habib, Raphaelle
APPLICANT: Krell, Tino
APPLICANT: Krell, Tino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3610 GCAC 3607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-263-103-35/c
                                                361
                                                                                                                                                                                                                                  4330
                                                                                     4450
                                                                                                                                                          4390
                                                                                                                                                                                                                                                                                                         4270
                                                                                                                                                                                                                                                                                                                                                                                   4210
                                                                                                                                                                                                                                                                                                                                                                                                                                                          4150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                       421
                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                        199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201
                                                                               g
                                                                                                                     ò
                                                                                                                                                 셤
                                                                                                                                                                                             ò
                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1690 GIGICICTIATCAGACCGTTICCCGCGTGGTGAACCAGGCCAGCCAGCTTTCTGCGAAAA 4631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGACACCATCGAATGGGGGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 5; Length 5248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3; Indels
APPLICANT: Nye, Steven H.
APPLICANT: Pelfrey, Clara M.
APPLICANT: Squinto, Stephen P.
APPLICANT: Wilkins, James A.
ITILE OF INVENTION: Modified Myelin Protein Molecules
NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          prokaryotic expression vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             36.3%; Score 1199.2;
99.8%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 0.8 Mb storage
COMPUTER: Macintosh Centris 610
                                                                                                                                                                                                                                                                                              OPERATING SYSTEM: SYSTEM 5 SOFTWARE: MACCOSOFT WORD 6.0.1
CURRATA APPLICATION DATA:
APPLICATION NUMBER: PCT/US96/05611A
FILING DATE:
CLASSIFFCATION:
PRIOR APPLICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 08/431,644
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/431,648
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/482,114
FILING DATE: June 7, 1995
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 30,399
REFERENCE/DOCKET NUMBER: ALX-129
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: Other nucleic acid
DESCRIPTION: DET Trc SO5/NI
DESCRIPTION: prokaryotic express
                                                                                                                             ADDRESSE: Maurice M. Klee
STREET: 1951 Burr Street
CITY: Fairfield
STATE: Connecticut
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (203) 255 1400
TELEFAX: (203) 254 1101
INFORMATION FOR SEQ ID 00: 21:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 5248 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 99.8
Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Circular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                          ZIP: 06430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCT-US96-05611A-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
```

유 ò 원

g ठे

8 음 ે 윰

```
1020
                                                                                                                                                                                                                                                                                                                                1080
                                                                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                            ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                  GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                            3662 GCCTGCTGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGGA
                                                                                                                                                                                                                                                                                                                                   AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-929-967-1/C

| Sequence 1, Application US/08929967 |
| Patent No. S891637 |
| TITLE OF INVENTION: Construction of Full-Length cDNA Libraries |
| TITLE OF INVENTION: Construction of Full-Length cDNA Libraries |
| TITLE OF INVENTION: Construction of Full-Length cDNA Libraries |
| TITLE OF INVENTION: Construction of Full-Length cDNA Libraries |
| TITLE OF INVENTION: Construction of Full-Length cDNA Libraries |
| TAPRESEE Generated, Inc. |
| STREET: 1 DNA WAY |
| CITY: South San Francisco |
| STATE: California |
| COUNTRY: USA |
| STATE: California |
| COUNTRY: USA |
| STATE: California |
| CONFUTER: IBM PC compacible |
| COMPUTER: IBM PC compacible |
| COMPUTER: Willed Matin (Genentech) |
| CONFUTER: Willed Matin (Genentech) |
| CURRENT APPLICATION DATA: |
| FILING DATE: CALETORIUM |
| F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      36.3%; Score 1199.2;
99.8%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P1035R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Dreger R.
REGISTRATION NUMBER: 33 055
REFERENCE/DOCKET NUMBER: P103:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/255-3216
TELEPHONE: 650/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 5443 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 36.3
Best Local Similarity 99.8
Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3422 GCAC 3419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141 (
                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                                                                                                  3602
                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                      g
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3962 CGCGTCTGCGTCTGGCTGGCTGGCATAAAATATCTCACTCGCAATCAAAATTCAGCCGATAG 3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGAACGGGAAGGCGACTGGAGTGCCATGTTCAACAACCATGCAAATGCTGA 3843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4622 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 4563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 4203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1082 cacccarcaacagrarrarrarceccargaagacggracgccacregeceregagearc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1022 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 3963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4562 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4322 ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAGGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCCCCTCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGTCTGCGTCTGGCTGGCTGAATATCTCTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCGTATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                          DB 4; Length
                                                                                                                                                                                                                                                                                                                                                                                                         3; Indels
                                                                                                                                                                                                                                                                                                                                                  Query Match
36.3%; Score 1199.2;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 1201; Conservative 0; Mismatches
TITLE OF INVENTION: gp41 antigen
FILE REFERENCE: 01-1692-A
CURRENT APPLICATION NUMBER: US/10/263,103
CURRENT FILING DATE: 2002-10-02
NUMBER OF SEQ ID NOS: 35
SOFTWARE: Petentin version 3.1
SEQ ID NO 35
LENGTH: 5312
                                                                                                                                                                                                                                                                         ) OTHER INFORMATION: plasmid pET-cer
US-10-263-103-35
                                                                                                                                                                                                   TYPE: DNA
ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

ö

Db 3730 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGGCTTTG 120 QY 1141 CCCGACTGGAAAGCGGCAGTGAGCGAATTAATGTGAGCTCACTCA	## APPLICANT: Wang, Tongtong ## APPLICANT: Bangur, Chaitanya S. ## APPLICANT: Bangur, Chaitanya S. ## APPLICANT: Bangur, Chaitanya S. ## APPLICANT: Fonder, Mary ## APPLICANT: Carter, Darrick ## APPLICANT: Carter, Darrick ## APPLICANT: Retter, Marc ## APPLICANT: Retter, Marc ## APPLICANT: Pan, Liqun ## APPLICANT: Pan, Li	Query Match 36.3%; Score 1199.2; DB 4; Length 5502; Best Local Similarity 99.8%; Pred. No. 0; 0 0; Gaps 0; Atches 1201; Conservative 0; Mismatches 3; Indels 0; Gaps 0; Qy 1 CCGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGCATGATGCGCCCGGAAGAGA 4618 461 461 4618 4618 Qy 6 1 GTCAATTCAGGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG 458 Qy 6 1 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGATGTTATACGAGAGTTTCCGCGAGAGTTATCCGGGAGAGTTATACCGAGAGTTATCCGCGTGGTGAAAAAAAA	
AGAGA - 	ACGGCCGTCGCAAATTGTCGCGCGATTAAATTCTTGCCGCTCCAGTCTGGCCCTGC ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGCCCTGC ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGCCGAGCG TGGTGTCGAAATTGTCGCGGCGATTAAATCTCGCGCGCGTCAACTGGCCGAGCG TGGTGTCGAAATGGTGGCGCGATTAAATCTCGCGCGGTGCCAATCTGGTGGCGATCAAACGGGCGGTGCCAATCTCGCCGAATCTCGCCGAATCTTCGCGCGGTGCAATCTCGCCGAATCTGATGGTGGATGATCATTAACTATCCGCTGAATGGTGCAATCTTCTCGCGCAACGGGTGCAATCTTCGCGCAACGGTGCAATCTTCGCGCAACGGTGGCAATCTTCGCGCGAATGGTGGGATGATCATTAACTATCCGCTGGAATGCTGAATGTTCTCGGCGAATGCTGGCAATGTTCGGCGAATGCTGGCAATGTTCGGCGAATGCTCGCGAATGCTTCGGCGAATGTTCTCGGCGGTGGAATGCTTCGGCGAATGCTTCGGCGAATGCTTCGGCGAATGCTTCTTCAATGTTCTTCTGAATGGTCTTCTGAATGTTCTTCAAGATGATTCTTCAAGATAATTTTCTTCGGCGAACGGAATGTTTCCCAAGAATAATTTTCTTCAACAGAATAATTTTCTTCCAACAGTAATTTTCTTCCAACAGTAATTTTCTTCAACAGAATAATTTTCTTCAACAACAGTAATTTTCTTCAACACAACAATAATTTTCTTCAACACAACA	TGGTCGCATTGGGTCACCAGCAAATCGGGGTGTTAGCGGGCCCATTAAGTTCTGTCTCGG TGGTCGCATTGGGTCACCAGCAAATCGGGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG TGGTCGCATTGGGTCGCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG TGGTCTGCGTCTGGCTGGCTGGCAAAATTATCTCACTCGCAATCAAATTCTGCCGATAG CGCGTCTGCGTCTGGCTGGCTGGCTAAAATATCTCACTCGCAATCAAATTCAGCCGATAG CGGAACGGGAAGGCGACTGGCATGAAAATATCTCACTCGCAATCAAATCAGCCGATAG CGGAACGGGAAGGCGATGGCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA ATGAGGCATCGTTCCCACTGCCATGTTCCCACAACGATGGCTGA ATGAGGCATCGTTCCCACTGCCATGTTCCAACAATGCTGAAATGCTGAAATGCTCAAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAAATGCTCAAATGCTCAAATGCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCAAATGCTCA	TGGGGGCCATTACCGAGTCGGGGCGTGGGGGGATATCTCGGTAGGGGGGGG

 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 5
 8
 6
 8
 5
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6

CURRENT APPLICATION NUMBER: US/09/736,457 CURRENT FILING DATE: 2000-12-13 NUMBER OF SEQ ID NOS: 1864 SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 785 LENGTH: 5502 TYPE: DNA ORGANISM: Homo sapien US-09-736-457-785	Ouery Match 36.3%; Score 1199.2; DB 4; Length 5502; Best Local Similarity 99.8%; Pred. No. 0; Matches 1201; Conservative 0; Mismatches 3; Indels 0; Gaps 0;	QY 1 CCGACACCATGGAAAGGTGCAAAACCTTTGGGGGTATGGGGCCGGGAAGAGA 60 L	QY 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGGTATGCCG 120 Db 4617 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 4558	OY 121 GTGTCTTATCAGACGTTTCCCGCGTGGTGAACCAGGCCAGCCA	OY 181 CGCGGGAAAAAGTGGAAGCGCGATGGCGGGGGTCAATTACATTCCCAACCGCGTGGCAC 240	Qy 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC 300	Oy 301 ACGCGCGTCGCAAPTTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360	Oy 361 TGGTGGTGTCGATGGTAGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC 420	QY 421 TTCTCGCGCAACGCGTCAGTGGGCTCATTAACTTAACTATCCGCTGGATGACCAGGATGCCA 480	OY 481 TIGCTGTGGAGCTGCACTAANGTICCGGCGTTATTCTTGATGTCTCTGACCAGA 540	Oy 541 CACCCATCAACAGTATTATTTTCTCCCATGAACGCGACTGGGCGTGGACATC 600	Oy 601 TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660		Qy 721 CGGAACGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAACCATGCAGA 780	Oy 781 ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGGGCTGGGCCCCAA 840	Qy 841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGGATACG 900
Db 4257 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 4198	Oy 601 TGGTCGCATTGGGTCACCAACAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660	Qy 661 CGCGTCTGCGTCGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720 Db 4017 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 3958	Oy 721 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780 Db 3957 CGGAACGGGAAGGCGACTGCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 3898	OY 781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGGCGCAA 840	Oy 841 TGCGCGCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 Db 3837 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 3778	Oy 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 	Oy 961 GCCTGCTGGGGAAACCAGGTGGACGTTGCTGCAACTCTCTGAGGGCCAGGGGGTGA 1020	OY 1021 AGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAACCACCTGGCGCCCCAATA 1080	Qy 1081 CGCAAACCGCCTCTCCCCGGCGTTGGCCGATTCATTAATGCAGCTGGCCAGGATTT 1140 Db 3597 CGCAAACCGCCTCTCCCCGGGGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT 3538	OY 1141 CCCGACTGGAAAGCGGGAATGAGCGCAATTAATGTGAGTTAGCTCACTCA	Oy 1201 GGAC 1204 Db 3477 GCAC 3474	RESULT 14 18.09-78-457-785/c ; Sequence 785, Application US/09736457 ; Patent No. 6509448	; GENERAL INFORMATION: ; APPLICANT: Wang, Tongtong ; APPLICANT: Bangur, Chaltanya S.	; APPLICANT: Lodes, Michael A.; APPLICANT: Fanger, Gary; APPLICANT: Vedvick, Tom	APPLICANT: Retter, Marc; APPLICANT: Mannion, Jane; APPLICANT: Fan, Liqun	; AFFLICANI: Wald, Alun ; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND ; TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER ; FILE REFERENCE: 210121.478C15

4198

480

4138

4078

780

Wed

8 8

දු පු

\$ 8 \$

음 수 음

ò 셤

```
ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                       ACGCGCCGTCGCAAATTGTCGCGGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                     TGGTGGTGGTGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                         TTCTCGCGCAAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                       TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                        CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGAGCGTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Search completed: August 3, 2005, 02:32:22 Job time : 356.4 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAC
             4437
                                                                                                               4317
                                                                                                                                                                                                                                                               4137
                                      301
                                                                                       361
                                                                                                                                                                4257
                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                 4077
                                                                                                                                                                                                                                                                                                                                                                   4017
                                                                                                                                                                                                                                                                                                                                                                                                                    3957
                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3777
                                                                                                                                        421
                                                                                                                                                                                         481
                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3477
                             ò
                                                       g
                                                                                    ò
                                                                                                        d
                                                                                                                              ò
                                                                                                                                                          원
장
임
                                                                                                                                                                                                                                   8 8 8
                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                        9 g
                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                   상 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                     1080
                                                                                                                                                                                      3538
                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GIGICICITATCAGACCGITICCCGCGTGGTGAACCAGGCCAGCCACGITTCTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                        1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA
                                                                                                                     3657 AGGGGAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCAATA
                                                                                                                                                                      GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                        CGCAAACCGCCTCTCCCCCGCGCTTGGCCGATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                         CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 4; Length 5502;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3; Indels
                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Wang, Tongtong
APPLICANT: Wang, Tongtong
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Vedvick, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Veter, Darrick
APPLICANT: Retter, Darrick
APPLICANT: Metter, Darrick
APPLICANT: Metter, Darrick
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THEI
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
TITLE OF INVENTION: LOMPOSITIONS AND METHODS FOR THEI
TITLE OF INVENTION: 2001-09-01
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
NUMBER OF SEQ ID NOS: 1668
SOFTWARE: FABLESEQ for Windows Version 3.0
LENGTH: SS02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
36.3%; Score 1199.2;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 1201; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                    RESULT 15
US-09-614-124B-785/C

// Sequence 785, Application US/09614124B
// Patent No. 6630574
// GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; TYPE: DNA
; ORGANISM: Homo sapien
US-09-614-124B-785
                                                                                                                                                                                                                                                         GCAC 1204
                                                                                                                                                                                                                                                                                   GCAC 3474
                                                                                                                                                        1081
                                                                                                                                                                                 3597
                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                3537
                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                                 3477
      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
```

```
4018
                                                                                                                                                                                                                                                          3898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                    1897 ATGAGGGCATCGTTCCCACTGCGATGCTGGCTAGCCAACGATCAGATGGCGCTGGGCAAA
                                                     TGGTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                   TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                       ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3717 GCCTGCTGGGGCAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGGAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3657 AGGCAATCAGCTGTTGCCCGTCTCACTGGAAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3597 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCTGCTGGGGCAAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
```

8 6 8 6 8

ठे है ठे,

ò

Н

Run on:

δ

```
Ad190419 Clostridi
Ad20653 Vector pJ
Ad173599 Plasmid p
Ad173609 Plasmid p
Ad173601 Plasmid p
Ad73601 Plasmid p
Ad73601 Plasmid p
Ad73209 Nucleotid
Ad73209 Transposo
Ad46505 Transposo
Ad46659 Transposo
Ad46651 Plasmid p
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad718668 Plasmid p
Ad773099 MBP and z
Ad6362112 plasmid p
Ad33522 Expressio
Ad63351 Vector pG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | transl except= | pos:2785 ..2787, aa:Asp | transl except= | pos:2786 ..2790, aa:Pro | transl except= | pos:2786 ..2790, aa:Arg | transl except= | pos:2781 ..2793, aa:Gly | transl except= | pos:2787 ..2877, aa:Ala | transl except= | pos:2875 ..2877, aa:Ala | transl except= | pos:2875 ..2877, aa:Ala | transl except= | pos:2875 ..2877, aa:Ala | transl except= | pos:2953 ..2955, aa:Glu | transl except= | pos:3121 ..3123, aa:Arg | transl except= | pos:3121 ..3123, aa:Arg | transl except= | pos:3127 ..3129, aa:Arg | transl except= | pos:3136 ..3318, aa:Arg | transl except= | pos:3136 ..3310, aa:Arg | transl except= | pos:3136 ..3210, aa:Ala | transl except= | pos:3211 ..3213, aa:Gly | transl except= | pos:3211 ..3213, aa:Gly | transl except= | pos:3211 ..3213, aa:Gly | transl except= | pos:3212 ..3225, aa:Ala | transl except= | pos:3221 ..3225, aa:Ala | transl except= | pos:3221 ..3225, aa:Ser | transl except= | pos:3223 ..3225, aa:Ser | transl except= | pos:32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Partial sequence of pMal-m1 and ZFPm1 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALIGNMENTS
                                        ADL18670
ADH73599
ADH73598
ADH73600
ADH73601
ABZ23333
ABZ73200
ABZ73200
ABZ73200
ABZ73200
ABZ73200
ADL72229
ADL72228
ADL72228
                                                                                                                                                                                                                                                                                                                ABQ73089
ADF83622
AAT90491
ADO33522
                                                                                                                                                                                                                                                                                                                                                                                            ADE24112
ADO33532
ADO33531
AAD29720
AAC55459
                                                                                                                                                                                                                                                                                            ADL18668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2719. .3270
/*tag= a
/product= "ZFPm1 p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAD11588 standard; DNA; 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /partial
2740. .2790
                                                                                                                                                        8 2 2 2 2 2 2 2 8
      Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                          1417.6
1362.6
1417.6
1417.6
1362.1
1417.6
1362.1
1362.1
1362.1
                                                                                                                                                                                                                                                                          1238.4
1238.4
1237.2
1237.2
                                                                                                                                                                                                                                                                                                                                                                        AAD11588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAD11588
        Aad11588 Partial 8
Aad11592 Partial 8
Aad11592 Partial 8
Aad11590 Partial 8
Aad11590 Partial 8
Aad1590 Partial 8
Aad21580 Nucleotid
Ad023608 DNA encod
Ad023698 DNA encod
Ad023598 DNA encod
Ad023599 DNA encod
                                                                                                                                                        (without alignments)
17846.836 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                      1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                    July 31, 2005, 14:24:04; Search time 1094.6 Seconds
                        GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                    4390206 segs, 2959870667 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAD11588
AAD11592
AAD11591
AAD11590
AAD1590
AAD23608
AD023603
AD023608
AD023608
AD023698
AD023698
AD023698
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
                                                                                                nucleic search, using sw model
                                                                                                                                                                                                                                                                                          IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     genesegn1980s:*
genesegn1990s:*
genesegn2000s:*
genesegn2001as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 geneseqn2001bs:*geneseqn2002as:*geneseqn2002bs:*geneseqn2003as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               geneseqn2003ds:*
geneseqn2004as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 geneseqn2003cs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          geneseqn2004bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             geneseqn2003bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Geneseq_16Dec04:*
                                                                                                                                                                                                                                                                                                                                                                                                                               seq length: 0
seq length: 200000000
                                                                                                                                                                                                            US-09-765-555B-15
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33300
33300
33300
8101
7259
7322
73322
7370
7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7403
                                          Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          33228
33215.2
32015.2
32015.2
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
3205.0
                                                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB
Maximum DB
                                                                                                  nucleic
                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database
```

Result Š

```
/bound_moiety= "F1-f2 primer"
2770. .2850
                                    bound_moiety= "F1-f1 primer"
824. .2889
                                                                                                                                                                                                                                                      "F4-f1 primer"
                                                                                                                                                                                                                                                                                                                                                                 bound moiety= "F6-b1 primer"
205. .3273
                                                                                                                                                                                                                                                                                                                                                                                         '*tag= m
'bound_moiety= "F6-b2 primer"
                                                                                                                                               "F3-b1 primer'
                                                                                                                                                                                  "F3-b2 primer"
                                                                                                                                                                                                                   "F4-f2 primer"
                                                                                             *tag= e
bound_moiety= "F2-f primer"
916. _2973
                                                          *tag= d
bound_moiety= "F2-b primer"
!867. .2940
                                                                                                                                                                                                                                                                                                                 *tag= k
bound moiety= "F5-f primer"
168. 3225
                                                                                                                                                                                                                                                                                           "F5-b primer'
                                                                                                                                                                     /*tag= g
/bound_moiety= "
2992. .3042
                                                                                                                                   *tag= f
bound_moiety=
                                                                                                                                                                                                                    bound_moiety=
022. 3102
                                                                                                                                                                                                                                                      bound_moiety=
076. .3141
                                                                                                                                                                                                                                                                                           bound_moiety=
119. 3192
                                                                                                                                                          3021
                          *tag=
                                                                                                                                                                                                          tag=
                                                                                                                                                                                                                                                                                                                                                       *tag≈
                                                                                                                                                                                                                                              *tag=
                                                                                                                                                                                                                                                                                 *tag=
                                                                                                                                                          953.
           primer_bind
                                                                                  primer_bind
                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                 primer_bind
                                              primer_bind
                                                                                                                     primer_bind
                                                                                                                                                         primer_bind
                                                                                                                                                                                                                              primer bind
                                                                                                                                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                            primer_bind
```

WO200152620-A2.

26-JUL-2001.

19-JAN-2001; 2001WO-US001817

21-JAN-2000; 2000US-0177468P. 21-JUL-2000; 2000US-00620897. (SYGN) SYNGENTA AGRIC DISCOVERY INC.

Barbas CF, Stege JT, Guan X, Dalmia

'n

WPI; 2001-465325/50. P-PSDB; AAE06000. New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the target gene.

Example 4; Page 138-139; 156pp; English.

The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with patrial sequence of pMal-m1 and ZFPMI DNA

1020

GCCTGCTGGGGGAAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGGGGGTGAA

961

ò

ö 120 120 180 180 240 240 300 300 360 360 420 420 480 540 480 540 900 900 99 720 999 720 780 840 900 780 840 900 960 9 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAATGACGTTATACGATGTCGCAGAGTATGCCG CGCGGGAAAAAGTGGAAAGCGGCGATGGAGCTGAATTACATTCCCAACCGCGTGGCAC CGCGGGAAAAGTGGAAGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GIGICICITIAICAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC cecerciecercieecreecreecaraaararcicacreecaarcaaarraeceaarae TGGTGGTGTCGATGGTAGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGGGTGGAGCATC CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 481 TIGCIGIGIGIGICICICICACATGITCCGGCGTIATITCTTGATGTCTCTGACCAGA TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA ATGAGGGCATCGTTCCCACTGCGGATGCTGGCTACGATCAGATGGCGCTGGCGCGAA 781 Argagggcarcgriccacrgcgargcrggrrgccaacgarcagrggcgcrgggcgcaa TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGGATACG ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC Gaps ö 4; Length 3300; Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other; 0; Indels <u> 1</u>3 0; Mismatches 100.0%; Score 3300; 100.0%; Pred. No. 0; Query Match 100.0%; Best Local Similarity 100.0%; Matches 3300; Conservative C ~ 361 61 61 121 121 181 181 241 241 301 301 361 421 421 481 541 601 661 661 721 781 841 901 901 X S g à 임 ઠ 셤 ò d g g ò ò g 8 8 셤 ò П 8 8 ò q ò g g ò ò 유 ò 셤 à 원

CONTINUED CONT
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
10.000

```
carget gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
        3240
                                      3240
                                                                      3300
                                                                                    3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                        Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGGTCGCCACCAACGTACTCAC
                    3181 CCAGAATGTGGCAAGTCTTTCTCTCGGCTCTGACAATCTCGTCCGGCACCAACGTACTCAC
                                                              3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                        protein"
not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= c
//bound moiety= "F1-f1 primer"
2824, 2889
/*tag= d
/bound_moiety= "F2-b primer"
2867. .2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   *tag= e
'bound moiety= "F2-f primer"
'bound moiety= "F3-b1 primer"
'tag= f
'bound moiety= "F3-b1 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      *tag= 1
/bound moiety= "F6-b1 primer"
3205. 3273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag= m
/bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bound moiety = "F4-f2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              moiety= "F3-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                moiety= "F4-f1 primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bound moiety= "F5-b primer"
119. 3192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bound moiety= "F5-f primer"
168. 3225
                                                                                                                                                                                                                                                                            Partial sequence of pMal-m2 and ZFPm2 DNA
                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
2719. .3270
/*tag= a
/product= "ZFPm2 prot
                                                                                                                                                                                                                                                                                                                                                                                                                                                       "CDS does
                                                                                                                                                                             AAD11589 standard; DNA; 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bound moiet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   953. .3021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 992. 3042
                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 *tag=
'bound_r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200152620-A2
                                                                                                                                                                                                                                                                                                                                                         Unidentified
                                                                                                                                                                                                                                           24-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-JUL-2001
 3181
                                                                                                                                                                                                             AAD11589;
                                                                                                                                          RESULT 2
AAD11589
ID AAD11589
AC AAD11589
AC AAD12
XX AAD11589
DET CDS
ET CDS
E
 ò
                            유
                                                              ઠે
                                                                                         유
```

19-JAN-2001; 2001WO-US001817

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant culle is modulating or regulating gene expression of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the patrial sequence of pMal-m2 and ZFPm2 DNA
                                                                                                                                                                                                                                                                                                                           New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 GIGTOTOTIATOAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 fédrégrégrégrégragaacgaagcégégrégaagcergraaagcgegegegacaare 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 AACAACTGGGGGGAAACAGTGGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 Acececcatcacaarrercececcarraaarcrcececcarcaacreerece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.0%; Pred. No. 0;
Matches 3300; Conservative 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other;
                                                                                                                                                                                   Dalmia B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 4; Page 140-142; 156pp; English.
                                                                                 (SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                                                                                                                                                Guan X,
21-JAN-2000; 2000US-017746BP. 21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                Barbas CF, Stege JT,
                                                                                                                                                                                                                                      WPI; 2001-465325/50.
P-PSDB; AAE06002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

ö

1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTTT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAACCTGGGAA 1920 	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 		2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 	2101 GGTCTGACTTCCTGGTTGACCTGATTAAAAACAAACAAAGAATGAAT	2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220	2221 GCATGGTCCAACATCGACAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	2281 AAGGGTCAACCATCCAAACCGTTCGTTGGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340	2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGAAGGTCTG 2400 2341 CCGAACAAAGAGCTGGCAAAAAGAGTTCCTCGAAAACTATCTGCTGATGAAGAGTCTG 2400		2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATGATG 2520 2461 TTGGCGAAAGATCCACGTATTGCCGCCACGAAAAACGCCCAGAAAGGTGAAATCATG 2520	2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 	aacaacaacaacaataacaataacaacctcgggatcgagggaaggatttcggaattc 	2701 GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT 2760
& A	දු පු	රු යු	o o	oy Oy	ò a	δ <u>a</u>	ý a	ò a	ç a	λ _o q _o	λο qa	ço d	oy Og	ço da	S G	oy Oy	cy qu	М
541 CACCCATCAACAGTATTTTTCTCCATGAAGACGGTACGCGACTGGGCGTGGACGTTC 600 	TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG	CGCGTCTGCGTCTGGCTGGCTGGCTAAAATATCTCACTCGCAATCAAATTCAGCCGATAG CHIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	CGGAACGGGAAGGCGACTGGCATGCCATTTCAACAACACAATGCTGATAACGGAAAGGCGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCTGAATGCAAATGCTGAATGCTAAATGCTGAATGCTGAATGCTAAATGCTGAATGCTAAATGCTGAATGCTAAATGCTGAATGAA		TGCGCGCCATTACCGAGTCCGGCTGCGCGTTCGTGCGATACTCTCGGTAGTGGGATACG	ACGATACCGAAGACAGCTCATGTTATATCCGCGCGTTAACCACCATCAAACAGGATTTTC	961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAGCTCCTCAGGGCCAGGGGTGA 1020 	AGGCDATCAGCTGTTGCCGTCTCGTGAAAAAAAACACCCTGGCGCCCAATA	CGCAAACGCCTTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT	CCGACTGGAAAGGGGGCAGTGAGGCAACGCAATTAATGTGAGTTAGCTTAGTTAG	GCACAATTCTCATGTTTGACAGGTTATCATGGACTGCACGGTGCACCAATGCTTCTGGCG	TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGGAGGGTGGTAAATCACTGCATAATTCG	ICTCGCTCAAGGGGACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 138	CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 144	ATTGTGAGGGGAATTGAGAATTGAGAAATTAGAGAAATTATGAGGGGTTGGGTTTAGAGGTGTTTTAGAGA 150	GCACTTCACCAACAAGACCATAGATATGAAAACTGAAGGAAG	1501 CCACITCACCAACAACACCATAACGATCTGAAACTGAAACTGAAACTGAAACTGAGAAACTGAGAAACTGAGAAAGATTCGAGAAAAGAT 1520 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1620	

φ

```
1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                               target gene.
     primer_bind
                                                            primer_bind
                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                          26-JUL-2001
                                primer_bind
                                                                                        primer_bind
                                                                                                                    primer_bind
                                                                                                                                               primer_bind
                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                   primer bind
     ò
             2760
                                2820
                                                                     2880
                                                                                                          2940
                                                                                                                                                                                                                                                             3180
                                                                                                                  2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAAGCCATACAAATGTCCAGAATGTGGC 2940
                                                                                                                                                       2941 AAGTCTTTCTCTCGGTCTGACAATCTCGTCGGCACCAACGTACTCACACCGGGGGGGAGAAG 3000
                                                                                                                                                                                                                     CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120
                                                                                                                                                                                                                                       3061 CAGCGTACCCACACGGGGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC 3120
                                                                                    Acdddrdaaaaaccdraraargcccaagagracccaarcrirragccagracaac
                                                                                                                                            AAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACCGGGGGAGAAG 3000
                                                                                                                                                                                  CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC 3060
                                                                                                                                                                                                 3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGGGATAACCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                           3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                                   3241 ACCGGTAAAAAACTAGTGGCCAGCCAGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             finger protein; ZFP; gene expression; metabolic pathway regulator; lation; plant technology; agriculture; Ap3; APETALA3; ds.
ccasaararastrocritororasascrorosascrosocacoacoascoras
                                                                                                        CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                  ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                                            3121 CAGGCCGCCACCTGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                          CAGGCCGGCCACCTGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /transl except= (pos:3124. 3126, aa:Ser)
/transl_except= (pos:3127. 3129, aa:Ser)
/transl_except= (pos:3136. 3138, aa:Val)
/note= "CDS does not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag= b
/bound_moiety= "F1-f2 primer"
2770. .2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   *tag= c
/bound_moiety= "F1-f1 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bound_moiety= "F2-b primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Partial sequence of pMal-Ap3 and ZFPAp3 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         product= "ZFPAp3 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           location/Qualifiers
2719. .3270
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                    AAD11592 standard; DNA; 3300 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .2790
                                                                                                                                                                                                                                                                                                                                                                                                                                        24-SEP-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /partial
2740. .27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Inidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        modulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                               2761
                                                                 2821
                                                                                    2821
                                                                                                                                            2941
                                                                                                                                                                                                                                                          3121 (
          2701
                             2761
                                                                                                       2881
                                                                                                                                                                                                                                                                                                3181
                                                                                                                                                                                 3001
                                                                                                                                                                                                                      3061
                                                                                                                                                                                                                                                                                                                                                                                                                       AAD11592
                                                                                                                                                                                                                                                                                                                                                                                          RESULT 3
                            ð
                                             유
                                                          ઠે
                                                                                유
                                                                                                      ò
                                                                                                                     ద
                                                                                                                                         ò
                                                                                                                                                            셤
                                                                                                                                                                                             셤
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                      윱
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                               ò
                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                    ठे
                                                                                                                                                                                                                                                                                                                                                    g
```

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ETP) Which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZPP binding to the target cells is modulated. The ZPP and fusions of the ZPP proteins are useful for modulating or regulating gene expression of the ZPP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZPP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-Ap3 (APETALA3) and ZFPAp3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 4; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3300 BP; 853 A; 872 C; 876 G; 699 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            46; Indels
                                                                                                                                                                                                                          'bound moiety= "F4-f2 primer"
1022. 3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'bound_moiety= "F6-b2 primer"
                                                                               primer"
                                                                                                                                                                                                                                                                                                       "F4-f1 primer"
                                                                                                                                                       primer'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "F6-bl primer"
_moiety= "F2-f primer"
                                                                                                                                                                                                                                                                                                                                                                                 bound moiety= "F5-b primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                            "F5-f primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 3226.4;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dalmia B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 4; Page 148-149; 156pp; English.
                                                                          /bound_moiety= "F3-b1
2953. .3021
                                                                                                                                                       "F3-b2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag= 1
/bound_moiety= "
3205. .3273
                                                                                                                                                  bound moiety=
                                                                                                                                                                                                                                                                                                    bound moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                               bound_moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .9-JAN-2001; 2001WO-US001817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97.8%;
98.6%;
                  . 2973
                                                                                                                                                                                                                                                                                                                                                                                                         .3192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    168. 3225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 98.64
Matches 3254; Conservative
                                                     *tag≈
                                                                                                                               *tag≕
                                                                                                                                                                                                       *tag=
                                                                                                                                                                                                                                                                                  *tag=
                                                                                                                                                                                                                                                                                                                                                         *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                    *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Barbas CF, Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2001-465325/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P-PSDB; AAE06005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200152620-A2
```

ö

셤

ò

8 8

8 8 8

ద

868686

엄

ò

8 6

8686

8 6 8 6

8 6

8 8 8

8 & 8 & 8

```
metabolic pathway regulator;
ds.
                                                                                                                                                                                                                                   product = "ZFPm4 protein"
/transl_except = (pos:3046, .3048, aa:Ser)
/note = "CDS does not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= f
/bound moiety= "F3-b1 primer"
2953. 3021
/*tag= g
/bound_moiety= "F3-b2 primer"
/*tag= 73042
/*tag= 13042
/*tag= 13042
                                                                                                                                                                                                                                                                                  2740. .2790

*tag= b

'bound_moiety= "F1-f2 primer"

1770. .2850
                                                                                                                                                                                                                                                                                                                                         *tag= c
/bound moiety= "F1-f1 primer"
2824. .2889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= 1
/bound_moiety= "F6-b1 primer"
1205. .3273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bound moiety= "F4-f1 primer" 076. 3141
                                                                                                                                                                                                                                                                                                                                                                                 /*tag= d
/bound_moiety= "F2-b primer"
2867. _2940
                                                                                                                                                                                                                                                                                                                                                                                                                       '*tag= e
'bound moiety= "F2-f primer"
!916. _2973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        *tag= k
bound_moiety= "F5-f primer"
168. 3225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer"
                                                                                                                                  Zinc finger protein; ZFP; gene expression; modulation; plant technology; agriculture;
                                                                                                        Partial sequence of pMal-m4 and ZFPm4 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dalmia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  *tag= j
bound_moiety= "F5-b
1119. 3192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                                                                                                                                                                  Location/Qualifiers
2719. .3270
                               ВР.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Barbas CF, Stege JT, Guan X,
                             AAD11591 standard; DNA; 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19-JAN-2001; 2001WO-US001817
                                                                                (first entry)
                                                                                                                                                                                                                                                                            partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200152620-A2
                                                                                24-SEP-2001
                                                                                                                                                                        Inidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   primer_bind
                                                                                                                                                                                                                                                                                        primer bind
                                                                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-JUL-2001
                                                      AAD11591;
 RESULT 4
AAD11591
ID AAD
                                          2340
                                                                              2340
                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                                                                                                                  2700
                                                                                                                                                                                                                                                                                                                                                                                           2700
                                                                                                                                                                                                                                                                                                                                                                                                                     2760
    2280
                                                                                                    GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                      2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                        TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAAGGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                         TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                              2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCTCCCTGGTGCGCCACCAGCGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2941 AAGTOTITICTCTCGGTCTGACAATCTCGGCCACCAACGTACTCACACGGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCATGGTCCAACATCGACACCCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                       AAGGGTCAACCATCCAAACGGTTCGTTGGCGTGCTGAGCGCAGGTATTAAACGCCCCAGT
                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGGCAGT
                                                                                                                                                                                                                                                                                                              GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                2581 GCCAGGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                               AACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                          2701 GGATCCTCTTCCTCTGTGGCCCAGGCCCCTCGAGCCCCGGGAGAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2761 CCGGAATGTGGTAAGTCCTTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGTGCCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2941 AAGICITICAGCCAGICCAGCAACCIGGIGCGCCACCAACGIACICACACCGGGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCGCCCCCCCCCGCCACCTGCATACTACTGGCGAGAAGCCATACAATGT
                                                                                                                                                                                                                                                                                                                                                                                         2641 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                 GGATCCTCTTCCTCTGTGGCCCCAGGCGCCCTCGAGCCCGGGGAAGCCCCTATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2821 ACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGGCCGGCCACCTGGCCAGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                          2281
                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                2641
                                                  2281
                                                                                                    2341
                                                                                                                                                                                                                                  2461
2221
                                                                                                                                                       2401
                                                                                                                                                                                                                                                                                                              2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3241
                                                                                                                                                                                                                                                                                                                                                                                                                   2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3241
```

σ

Wed

The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (EPP) which is capable of specifically binding to a target mucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target mucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m4 and ZFPP4 DNA New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of Example 4; Page 145-147; 156pp; English P-PSDB; AAE06004 target gene.

the

Sequence 3300 BP; 849 A; 865 C; 880 G; 706 T; 0 U; 0 Other;

120 120 180 180 240 240 300 300 360 360 420 420 480 480 540 540 9 900 9 9 9 GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG GTGTCTCTJATCAGACCGTTCCCGCGTGGTGAACCAGGCCACCACGTTTCTGCGAAAA TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGGGGTTATTTCTTGATGTCTCTGACCAGA TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG Grercretarcasaccerrrecesersasacassecasecacerrrersesaaa cecedeaaaaagredaaececearececeaecreaarracarrecaacececereceae ACGCCCCCCCCAAATTGTCCCCGCCGATTAAATCTCGCCCCGATCAACTGGGTGCCAGCG recrerciarceracaaceaaceacerceaaccreraaaceaceaceare TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC **AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTTGCCACCTCCAGTCTGGCCCTGC** TGTGTGTTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC ö DB 4; Length 3300; Indels 53; Score 3215.2; I
Fred. No. 0;
0; Mismatches 97.48; 98.48; Best Local Similarity 98.4 Matches 3247; Conservative 121 Н 241 481 541 181 301 361 541 601 Query Match 61 61 121 181 241 301 361 421 421 481

8 6 8

8

ò ద ठे

8 8 8

8 8 ઠે g

र्व क्षे

g ያ

g

ò

g

1500 1020 1080 1080 1140 1140 1200 1200 1260 1260 1320 1320 1380 1380 1440 1560 1620 1620 1680 1680 1020 1500 1681 GCGCCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGGCTTTGGTGGCTAC 1740 780 780 840 840 900 900 960 960 9 720 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGGTCACTCATTAG CGCAAACCGCCTCTCCCCGCGCGTTGCCATTCATTAATGCAGCTGGCACGACAGGTTT GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGCTGCACCGACGACCACCAATGCTTCTGGCG TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT GCACTTCACCAACAAGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG ATTAACGGGGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCACCATCAAACAGGATTTTC GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG rcagecagecarcegaagereregraregereregeageregraaareaeregaaarreg TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTTGCGCCGACATCATAACGGTT CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA GCACTTCACCAACAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG **ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAT** ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG CGCGTCTGCGTCTGGCTGGCTTGAATATCTCTCACTCGCAATCAAATTCAGCCGATAG CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1261 1441 1501 1561 1621 1021 1261 1321 1381 1561 1621 841 901 1141 1141 1201 1201 1321 1381 1441 1501 1681 501 721 781 841 961 1021 1081 1081 199 721 781 901 961 QQ g 요 g 셤 g 셤 g ద g 엄 g 셤 8 6 g ò ò ò δ 8 ð ò ò ò 8 8 8 셤 ઠે ò ò ò ઠે ठ

QY 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAC 2880 Db 2821 ACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGAGCAGC 2880 CB 2881 CTGGTGCGCCATCAAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGAGCAGC 2940 QY 2881 CTGGTGCGCCATCAAACCCATCATCATCAAAATGTCCAGAATGTGGC 2940 Db 2881 CTGGTGCGCCATCATCATCATCAGCGCAAGAAGCCATACAAATGTCCAGAATGTGGC 2940 QY 2941 AAGTCTTTCTCCGGCCACTCATCATCAGCGCAACGTACTCACCGGGGAATGTGGC 2940 Db 2941 AAGTCTTTCTCCGGTCTTGACATCTCTCGAGGCCCAACGTACTCACCGGGGAAGAG 3000 QY 3001 CCCTATGCTTGTCTGATCATCTCTCAGCGCACCACGTACTCACCGGGGAAGAGGCCAC 3060 Db 3001 CCCTATGCTTGTCCGGAATGTGGTAAATGCCCCAACGTACTCACCGGGGAAGAGGCCACCACGTACACGGCCACCACGTACACGCCCACCACGTACACGCCCACCACGTACACACGCCCACCACGTACACACGCCACCACGGCCACCACGTACACACGCCACCACGCCACCACGCCACCACGTACACACGCCACCACGCCACCACGCCACCACGCCACCACGCCACCA	RESULT 5 AAD11590 XX AAD11590, XX AAD11590, XX AD11590, XX AD11590, XX AD11590, XX AD11590, XX AD11590, XX AD1590, AD1590
1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800	221 GCNTGGTCCAACATCGACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 221 GCNTGGTCCAACATCGACACCACAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCNTGGTCCAACATCGACACCACAAAGTGATTATTATGGTGTAACGGTATTAACGCCGCCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTGGCGTGCTGAGCGCAGTATTAACGCCGCCAGT 2340 2381 CCGAACAAGAGCTGAACCGTTGGCGTGCTGAGCGCAGTATTAACGCCGCCAGT 2340 2381 CCGAACAAGAGCTGACCGTTGGCGTGCTGAGCGTAACTAATAACGCCCCCAGT 2340 2391 CCGAACAAGAGCTGGCAAAAGATCCCTGAACAACTAACTA

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1260
                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                 240
                                                                                 300
                                                                                                                  300
                                                                                                                                                  360
                                                                                                                                                                                 360
                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                  CGCGGGAAAAAGTGGAAAGCGGGATGGCGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                  ACGCCCCTCCCAATTGTCCCCGCCATTAAATCTCGCCCCGATCAACTGGGTGCCAGCC
                                                                                                                                                                                                                                                                                                                                               TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGATATCTCCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCTGCTGGGGCAAACCAGCGTGGGACCGCTTGCAGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cecaaacceccrcrcccececerrescearrearrantearecrescrescaestrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                  CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                 AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                  ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                 TGGTGGTGTCGATGGTAGAACGAAGCGCCTCTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                    TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                  TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                 181
                                                                                 241
                                                                                                                  241
                                                                                                                                                  301
                                                                                                                                                                                 301
                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                          ò
                                                                                                         g
                                                                                                                                                ઠે
                                                                                                                                                                        g
                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of a target general manner of the composition of a target general manner of a target general manner of the capable of specifically binding to a target nuclectide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the Partial sequence of pMal-m3 and ZFPM3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               patent discloses methods and compositions to modulate the expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of target gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCGAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 3300 BP; 845 A; 878 C; 877 G; 700 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               58; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 4;
                 primer'
                                                                                                                                                                                                               "F6-bl primer"
                                                                                                                                                                                                                                                               'bound_moiety= "F6-b2 primer"
                                                                    primer'
                                                                                                                  "F5-b primer"
                                                                                                                                                                "FS-f primer'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 3207.2;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                æ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 4; Page 143-145; 156pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dalmia
                 "F4-f2
                                                                  "F4-£1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SYGN ) SYNGENTA AGRIC DISCOVERY INC.
/*tag= h
/bound_moiety= "
3022. .3102
                                                                                                                                               /*tag= k
/bound_moiety= "
3168. .3225
                                                                bound_moiety=
076. .3141
                                                                                                                bound_moiety=
                                                                                                                                                                                                               bound_moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Guan X,
                                                                                                                                                                                                                                                                                                                                                                                               21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97.2%;
                                                                                                                                                                                                                                                                                                                                                                  19-JAN-2001; 2001WO-US001817
                                                                                                                                                                                                                               .3273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 98.2
Matches 3242; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                               (SCRI ) SCRIPPS RES INST
                                                                                                                                                                                                *tag=
                                                   *tag=
                                                                                                  *tag=
                                                                                                                                                                                                                                3205.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-465325/50.
P-PSDB; AAE06003.
                                                                                                                                                                                                                                                                                                WO200152620-A2
                                primer_bind
                                                                                                                              primer_bind
                                                                                                                                                                            primer_bind
                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                26-JUL-2001
                                                                                 primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Barbas CF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ٦
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
```

셤

ઠે

g

8

셤

ઠે

us-09-765-555b-15

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1560
                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                              960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                             540
                                                        540
                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                   900
 480
                                                                                       600
                                                                                                                 600
                                                                                                                                                999
                                                                                                                                                                            9
                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACTTCACCAACAAGGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                    CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGATACCGAAGACAGCTCATGTTATATCCCGCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGCAAATATTCTGAAATGAGCTGTTGATGATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                              TTGCTGTGGAAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                              CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                            ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                     TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTIGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGGTGTTTTCACGA
                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1501
                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1441
                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1261
                                                          481
                                                                                                                   541
                                                                                                                                                                                                           199
                                                                                                                                                                                                                                      661
   121
                              481
                                                                                       541
                                                                                                                                                601
                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                           8 8
                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                 g
                                                                                                                유
                                                                                                                                                                   g
                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
 8 8
                                                                              ò
                                                                                                                                            ò
                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence encodes human Cdc25C phosphatase, and was expressed in Escherichia coli. It is used to make fusion proteins with Escherichia coli maltones binding protein (MBP). The specification describes fusion proteins of MBP and one of Cdc 25B1, 25B2, 25B3 and 25C. Cdc phosphatases are involved in activation of cyclin-dependent kinases (CDK) that control cell division. The fusion proteins are used to identify modulators of the specified human Cdc phosphatases, potentially useful for regulation of cell division. They are also for studying physiological or physiopathological activities of Cdc phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                            fusion protein of maltose-binding protein and Cdc phosphatase, useful identifying phosphatase modulators for regulating the cell cycle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCCCCGTCCCAAATTGTCGCGCCGATTAAATCTCGCCCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
Iltose binding protein; MBP; Cdc25C phosphatase;
Cdc25B3; cyclin-dependent kinase; CDK; cell division;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCGCCCTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTGGTGTTGTTGTTGTAGGGGGGGGTCGAAGCCTGTAAAGCGGCGGCGCTGAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 8101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seguence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 2705.8;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                    Prevost
                                                                                                                                                                                                                                      (SCRC ) SCRAS SOC CONSEILS RECH & APPL
                                                                                                                                                                                                                                                                    Ducommun B,
                                                                                                                                                                                                                                                                                                                                                                        Claim 7; Page 9-13; 56pp; French
                                                                                                                                                                          14-DEC-1999; 99FR-00015722.
30-MAY-2000; 2000FR-00006883.
21-SEP-2000; 2000FR-00012008.
                                                                                                                                               13-DEC-2000; 2000WO-FR003496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 99.9%;
Matches 2707; Conservative
   protein; maltose
; Cdc25B2; Cdc25B
                                                                                                                                                                                                                                                                  Goubin-Gramatica F,
                                                                                                                                                                                                                                                                                                 WPI; 2001-398152/42
                                                          Homo sapiens.
                                                                                                                   21-JUN-2001
   Fusion pro
Cdc25B1; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                              New
```

요

8

a

Š

ठे हे ठे

ል ጵ

ያ ያ

중 음

유 상

us-09-765-555b-15.rng

6 6 6 6 6 6

```
2641 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGATTTTTCAGAATTC 2700
                      2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                  Cdc2SC phosphatase, amine; Cdc25 phosphatase; spontaneous alopecia; alopecia; proliferative disease; parasitic disease; viral infection; neurodegenerative disease; myopathy; angiogenesis; psoriasis; restenosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The proposal section describes the use of aryl-substituted secondary or tertiary amines for the production of substituted secondary or tertiary amines for the production of medicaments for inhibiting Cd225 phosphatases, especially Cd225C phosphatases. The amines of the invention are used for treating spontaneous alopecia or alopecia induced by exogenous products or radiation. They are also used for treating tumoural or non-tumoural proliferative diseases, parasitic diseases, viral infections, neurodegenerative diseases or myopathy. Examples of non-tumoural proliferative diseases are e.g. angiogenesis, psoriasis or restenosis. The amines are also useful for inhibiting the proliferation of microorganisms (especially yeases) and in the treatment of all disorde conventionally treated with vitamin K or its derivatives
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cdc25 Phosphatase inhibiting medicaments, useful e.g. for treating diseases, viral infections, neurodegenerative disease or alopecia, containing new or known aryl-substituted amines.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   present sequence represents pMAL-HsCdc25C, a plasmid encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein (MBP)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Goubin GF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thurieau C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag= b
/note= "encodes maltose binding
2713. .4134
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human Cdc25C"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SCRC ) SCRAS SOC CONSEILS RECH & APPL SCI.
                                                                                                                                                                                                                                                                                                                                   Nucleotide sequence of pMAL-Hs Cdc25C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Galcera CMO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 18-22; 39pp; French
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                         BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                       ABL53238 standard; DNA; 8101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-JUL-2000; 2000FR-00009900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-JUL-2000; 2000FR-00009900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "ORF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     528. .2677
                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brezak PMC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2002-166066/22.
                                                                                            GGATCCTCT
                                                                                                                           GGATCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                         vitamin K; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FR2812198-A1
                                                                                                                                                                                                                                                                                             17-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Prevost G,
Ducommun B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                            2701
                                                                                                                            2701
                                                                                                                                                                                                                                                           ABL53238;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ducommun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                      ABL53238
                                                                                                                                                                                   RESULT
                                             g
                                                                                                                                                                                                                                        ò
                                                                                          8
                                                                                                                   g
                                                                                                                                                                                  1740
                                                                                                                                                                                                                      1740
                                                                                                                                                                                                                                                        1800
                                                                                                                                                                                                                                                                                             1800
                                                                                                                                                                                                                                                                                                                                 1860
                                                                                                                                                                                                                                                                                                                                                                                                        1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2160
                                                                                                                                  ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2640
                                                                                                                                                                                                                                                                                                                                                                     1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1980
GCACTICACCAACAAGGACCATAGAITAIGAAAATCGAAGAAGGIAAACTGGIAATCTGG 1560
                                                                      1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGACGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640
                                                                                                                                                                                                    GCGGCAACTGGCGATGGCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                      GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                  GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                   ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                              GCGCCAACTGGCGATGGCCCTGACATTATCTTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                      GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTTAT
                                                                                                                                                                                                                                                                                                                                                      CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAGCGCTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCAGCGCTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                          ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCCACAGGTT
                                                                                                                                                                                                                                                                                                                              CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                      1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGGCGAAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2041
                                                                                                          1621
                                                                                                                                                                                1681
                                                                                                                                                                                                                                                                                                                                                                  1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1921
 1501
                                                                                                                                            1621
                                                                                                                                                                                                                  1681
                                                                                                                                                                                                                                                      1741
                                                                                                                                                                                                                                                                                          1741
                                                                                                                                                                                                                                                                                                                              1801
                                                                                                                                                                                                                                                                                                                                                                                                    1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2581
```

ద

셤

ò

ઠે

용

8

8 8 S

ठ

용

8 8 8 8

Db 1021 AGGCAATCAGCTGTTGCCGGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA Qy 1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTAATGCAGCTGGCACGACGGTTT	1141 CCCGACTGG	Qy 1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCCAATGCTTCTGGCG	Qy 1261 TCAGGCAGCCATCGGAAGCTGTGGTAGGCTGTGCAGGTCGTAAATCGCATAATTCG	Qy 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT	Qy 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGGG 	Qy 1441 ATTGTGAGCGGATAACAATTTCACAGGAAACAGCCAGTCGTTTAGGTGTTTTCACGA	Qy 1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGGTAAACTGGTAATCTGG	Qy 1561 ATTAACGGCGATAAAGGCTATAACGGTCGTGAAGTACGGTAAGAAAGA	Qy 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT	Qy 1681 GCGCAACTGGCCATGGCCTTATCTTCTGGGCACACGCTTTGGTGGCTAC	Qy 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCGGACAAGGGTTCCAGGACAAGCTGTAT	Qy 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGCGAAGCTGATTGCTTACCCGATCGCTGTT	Qy 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA	Qy 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC	Qy 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAGG	OY 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
Query Match 82.0%; Score 2705.8; DB 6; Length 8101; Best Local Similarity 99.9%; Pred. No. 0; Matches 2707; Conservative 0; Mismatches 2; Indels 0; Gaps 0; 1 CCGACACCATCGARGCGGAAAACCTTTGGGGGTATGGATGGATGGCGCCGGAAGAGA 60	CCGACACCATCGAATGGTGCCAAAACCTTTCGCGGTATGGCATGATGATGGCGCCCGGAAGAGA GTCAATTCAGGGTGGTGAAAGCTTTGGCGGTTATACGATGTCGCAGGTATGTCCC	STOAMITICAGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	CGCGGGAAAAACTGGAAGCGGCGATGGGGGGGGGTGAATTACATTCCCAACCGCGTGGCACCGCGCGCG	AACAACTIGGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACTTCAGTCTGGCCCTGC	AGGGGCGTCGCAAATTGTCGCGCGGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG	TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC	TTCTCGCCCACCGCTCAGTGGGCTGATCATTAACTATCGGCTGGATGACCAGGATGCCA	TICCTGTGGAAGTGCCACCAATGTTCCGGCGTTATTTCTTGATGTTCTGAACCAGA	CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC	TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG	CGCGTCTGCGTCTGGCTGCCTAAATATCTCACTCGCAATCAAT	CGGAACGGGAAGGGACTGCATGTCCGGTTTTCAACAACATGCAATGCTGA [H]	ATGAGGGCATCGTTCCCACTGCGATGCTTGCTACGATCAGATGGTGGGCTGGGCGCAAAAAAAA	41 TGCGCGCCATTACCGAGTCCGGCTTGCTGCTGCGGATATCTCGGTAGTGGGATACC	ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC	GCCTGCTGGGGCAAACCAGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTAAL

δ

કે

ò

ò

임 ò 셤

à

g

ઠે 요 ò 유 ò ద જે

```
Ginsburg SR,
                                                                                                               Example 2; Fig 22; 114pp; English
       Patel CB,
                           2004-304563/28
                                      P-PSDB; AD023609
       Maine GT,
                                                                                                                                                                                                                                                                                                                                                                  Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
      ò
                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                             2340
                                                                                                                                   2340
                                                                                                                                                       2400
                                                                                                                                                                                                                                                                                       2580
                                                                                                                                                                                                                                                                                                           2580
                                                                                                                                                                                                                                                                                                                                2640
GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC 2160
                                                                                                                                                                GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                          2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                       TIGGCGAAAGAICCACGIATIGCCGCCACCAIGGAAAACGCCCAGAAAGGIGAAAICAIG 2520
                                                                                                                                                                                                                                                       2461 TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAAGGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                          2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGGTCG 2640
                                                                                                                                                                                                                                                                                                                                                                           2700
                                                                                                                                                                                                                                                                                                                                                                                     2641 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                      TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                    GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                             AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                    GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                    2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                     2641 AACAACAACAATAACAATAACAACCTCGGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        encoding MBP-ToxoP30del8(82-294aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AD023608 standard; DNA; 7259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                GGATCCTCT 2709
                                                                                                                                                                                                                                                                                                                                                                                                                  GGATCCTCT 2709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAINE G T.
PATEL C B.
GINSBURG S R
BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US2004067239-A1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P30 antigen; Tox
MBP-Toxo30del3C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-APR-2004
 2101
                                           2161
                                                               2221
                                                                                     2221
                                                                                                                              2281
                                                                                                                                                    2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                      2161
                                                                                                          2281
                                                                                                                                                                         2341
                                                                                                                                                                                                                                                                                  2521
                                                                                                                                                                                              2401
                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                              2581
                                                                                                                                                                                                                                                                                                                                                                                                                2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADO23608;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (PATE/)
(GINS/)
(BLIE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (WAIN/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ANO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                                      g
                                                                               셤
                                                                                                                        셤
                                                                                                                                                                     요
```

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in substituted amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence of Toxo30de13C(52-30aa) MBP-Toxo30de14C(52-294aa) and MBP-Toxo30miX1 antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies antibody complexes. The presence of IgM antibody complexes. The presence sequence represence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 GTCAATTCAGGGTGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIGCIGIGGAAGCIGCCIGCACTAAIGITCCGGCGITATITCTIGATGICTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                         Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del1C, Toxo30del2C, ToxoP30 MIXI, useful for detecting presence of IgM or antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 12; Length 7259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7259 BP; 1870 A; 1822 C; 1926 G; 1641 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6; Indels
   ŢŖ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
81.5%; Score 2690.4;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches
Bliese
```

	2641 AACAACAACAACAATAACAATAACAACACCTCGGGATCGAGGAAGGA
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6	Oy 2641 Db 2641 RESULT 9 AD023613 ID AD023613 XX AC AD023613
1991 1997	ATTAACGCCGATAAAGGCTATAACGGTCCGCTGAAGTCGGTAAGAATTCGAGAAAGATTTAACGGTTAACGGTCTAAGTCTGAAGTTCGAGAAAGATTTCGAGAAAGATTTAACGGTTAACGGTCTGAAGTCGGTAAGAAATTTCGAGAAAGATTTAACGGTAAACGTTAAACGTCTGGAAGTAACGGTATAAAGTTCGACAAGAATTTAAAGTTCCCACAGGTTAACGGAATTAAAGTTCGCACAGGTTAACCGGAATTAAAGTTCCCACAGGTTAACCGGAATTAAAGTTCCCACAGGTTAACCGGAATTAAAGTCCCACAGGTTAACCTGGAAGAAAATTCCCACAGGTTAACCGGAATTAAAGGTCCCTGACATTATCTTCTGGGCCACGGCCTTTGGTGGCTACCGCCTTTGGTGGCTACCGCCTAACGACTACCGCCACACGCTACCGCCACACGCTACCGCCACACGCTACCACACACA

420 420 540

900 900 9 9 720 720 780 780 840 840

```
241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                         TICTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480
                                                                                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGTCTGCGTCTGGCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901 ACGATACCGAAGACAGCTCATGTTATATCCGCCGTTAACCACCATCAACAACAAGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                             TGGTGGTGTTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                          TICTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                       TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tricircicisca Action contra and a contra and a contra and a contra 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201 GCACAATTCTCATGTTTGACAGCTTATCATGGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                241
                                                                                                                             301
                                                                                                                                                                          301
                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1261
                                                                 qq
                                                                                                                           ò
                                                                                                                                                           셤
                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     상염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30del3C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C(52-300aa), MBP-TOXO30del4C(52-294aa) and MBP-TOXO30MIX1 fusion proteins. (1) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (1) and detecting the presence of (1)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-TOXOP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ccaacaccarcaaricgracaaaaccrrrccccgrarccargaracccccccaaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                   P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match

81.5%; Score 2690.4; DB 12; Length 7322;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches 6; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 7322 BP; 1887 A; 1844 C; 1934 G; 1657 T; 0 U; 0 Other;
                                                                      DNA encoding MBP-ToxoP30del10(52-284aa) fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bliese TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 2; Fig 25; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                         02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                      02-OCT-2002; 2002US-00263153
                                                                                                                                                                     Toxoplasma gondii; ds; gene.
                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-304563/28.
                                                                                                                                                                                                                   Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB; ADO23614
                                                                                                                                                                                                                                                                                         US2004067239-A1
                         01-JUL-2004
                                                                                                                                                                                                                                                                                                                                         08-APR-2004
                                                                                                                                                                                                                                            Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
```

g

ઠ

8 &

8 8 8

8 8 8 8 8

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the with alanine, or comprising the amino acid sequence in with alanine, or comprising the amino acid sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30de12C(52-300aa), MBP-Toxo30de14C(52-294aa) and MBP-Toxo30MIX1 fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel purified polypeptide having sequence identity to amino acid sequence of F910 antigen of Toxoplasma gondii e.g. Toxo30de13C, Toxo30de12C, Toxo200 MIXI, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                GCCAGGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                            TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAAAGCCCCAGAAAGGTGAAATCATG
                                                                                                                                     CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                         CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                            GCCAGCGGTCGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                       AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA encoding MBP-ToxoP30del4C(52-294aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ę,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 2; Fig 19; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                            BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-OCT-2002; 2002US-00263153.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-OCT-2002; 2002US-00263153.
                                                                                                                                                                                                                                                                                                                                                                                                              AD023603 standard; DNA; 7352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P-PSDB; ADO23604.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US2004067239-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                          2461
                                                                                                                                                     2521
                                                                                                                                                                                                                                  2581
                                                                                                                                                                                                                                                                         2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADO23603;
2401
                                      2461
                                                                                                                   2521
                                                                                                                                                                                              2581
                                                                                                                                                                                                                                                                                                                                                                                          AD023603
                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                           ò
                                                                                                                                                 g
                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                            CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGATGTGTGGA
                                                                                                                                                         ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCATCGCAGAAGCTGCCTTTAATAAAGCGAAAACACGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACTTCACCAACAAGGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                      GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                           ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                               ATTAACGGCGATAAAGGCTATAACGGTCTCGAGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGGCAACTGGCGCTTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGCGTAAGAGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                     ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                        ACCEGNATIVAAGTCACCETTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                            ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1801 ccertraccrescarecceracerracaaceccaaecrearrecrareccearecrerr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                        CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2281
                                                                                                                                     1441
                                                                                                                                                                                                                                                                                                                               1561
                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                            1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2341
                                                                                                                                                                                                              1501
                                                                                                                                                                                                                                                                                         1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2401
                                                                                                                                                                          1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1981
                1321
                                                        1381
                                                                                                                                                                                                                                                  1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1801
```

8 8 8

g

ठे

g

ઠે

8 8 8 8 8 8 8

ઠે

g

8 8 8 8 8

8

ઠે

a MBP- Qy 961 Db 961 Qy 1021 aps 0,		120 180 09 180 240 240 Db		480 QY 1501 480 Db 1501 540 QY 1561 540 QY 1661 600 Db 1621	
CC with a composition comprising (I) and detecting the presence of (CC antibody complexes. The present sequence represents DNA encoding CC Toxop30 fusion protein of the invention. XX XX Squence 7352 BP; 1896 A; 1852 C; 1943 G; 1661 T; 0 U; 0 Other; Query Match Query Match B1.5%; Score 2690.4; DB 12; Length 7352; Best Local Similarity 99.8%; Pred. No. 0; Matches 2694; Conservative 0; Mismatches 6; Indels 0; G	Qy 1 CCGACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA Db 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGCGAGAGA Qy 61 GTCAATTCAGGTGTGAATGTGAAACCTTATACGATGATGCGGTATGCCG Db 61 GTCAATTCAGGGTGTGAATGTGAAACCAGTAAACGTTATACGATGATGCCGCGTGAATGCCCGCAGTAAACCATTAAACGATAAACCAATAAACAACAAAAACCAATTAAAACAAAAAAA	121 121 121 181	QY 241 AACAACTGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGGTCTTGGCCGTTGCCACCTCCAGGTCTTGGCCTTGCTGCTTGCT	Qy 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCCCTGGATGACCAGGTGCCA Db 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA Qy 481 TTGCTGTGGAAGCTGCTCAACTATCTCCGCTTATTTCTTGATGTCTCTGACCAGATGCCAGA Db 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA Db 541 CACCCATCAACATGCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA Qy 541 CACCCATCAACAGTATATTTTCTCCCATGAAGACGGACTGGGCATC Db 541 CACCCATCAACATATTATTTTCTCCCATGAAGACGGTACGCGACTGGACGCATC Db 541 CACCCATCAACATTATTTTCTCCCATGAAGACGGTACGCGACTGGAGCATC	001 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG

	ò	961 GCCTGCTGGGGCAAACCAGCGTGGCGGCTTGCTGCAACTCTCTCAGGGCCCAGGCGGTGA 1020
	qq	-5 -5 -5
	λŏ	GGGCAATCACTGTTGCCGTCTCACTGGTGAAAAAAAACCACCTGGCGCCCAATA 108
	ΩD	08
•	ò	1081 CGCAAACCGCCTCTCCCCGGGGTTGGCCGATTCATTAATGCAGGTGCGGACGACGGGTTT 1140
	Op	CTGGCACGACAGGTTT 114
	δ	1141 CCCGACTGGAAAGCGGCCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCA
	QΩ	caaciggaaagcggccagigagcgcaacgcaaiiaaigiaagiiagcicacica
	ò	01
	අු	126
	ò	1261 TCAGGCAGCCATCGGAAGCTGTGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
	qq	AGCCATCGGAAGCTGTGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 132
	ò	CATAAC
	qq	CATCATAACGGTT 13
	δ	55
	qq	1381 CTGGCAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440
	ò	1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500
	qq	3AGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 150
	<i>\</i> 0	1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAAGGTAAACTGGTAATCTGG 1560
	q _C	01 GCACTTCACCCAACAAGGACCCATAGCATATGAAAATCGAAGGTAAACTGGTAAACTGGTAATCTGG 156
	δ	162
	qa	61 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 162
	ò	168
	q	168
	ò	681 GCGGCAACTGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 174
	qq	81 GCGGCAACTGGCGCATGACATTATCTTCTGGGCACGGACGG
	ò £	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCGTAT 1800 1741 GCTCAATCTGCCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCGTTGTT 1800 1741 GCTCAATCTGCCCTGTTGAATCACCTCCTGAAAAACCGTTCAACAAACTGAAAAACTGAAAAACTGAAAAACTGAAAAACTGAAAAACTGAAAAACTGAAAAAACTGAAAAAACTGAAAAAACTGAAAAAAAA
	8	801 CCGTTTACCTGGGGATGCCGTACGTTACAACGGGGGGTTGATTACCTAACATTACTTTA 186
	; A	01 CCGTTTACCTGGGATGCCGTACGTTACAACGCAAGCTGATTGCTTACCCGATCGCTGTT 186
	ò	TTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACTGGGGAA 192
	qq	1861 GAAGGTIATCGCTGATTTATAACAAAGATCTGCCGAACCCGCCAAAAACCTGGGAA 1920
	Ġ	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980
	qq	3CGCTGA7
	ð t	0.4
_	2	917 70

셤 ઠે g ठ g ઠે

ò

셤

ઠે ద ઠે 셤 δ g 8 셤

g 8 g

ઠે

g

ઠે

```
ö
                                                                                                                                                                                                                                                                 The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-TOx030de13C(52-390a) MBP-TOXO30de14C(52-29aa) and MBP-TOXO30MIX1 fusion proteins. (1) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (1) and detecting the presence of (1)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-TOXOP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                  Novel purified polypeptide having sequence identity to amino acid sequence of F93 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, Toxo30del2C, Toxo910 MIXI, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCCCCCCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGGGGGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cecegeaaaaagreeaagceeaageceaaccaaarracarrecaaacceegeaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 12; Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 7370 BP; 1901 A; 1855 C; 1949 G; 1665 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6; Indels
                                        Bliese TR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81.5%; Score 2690.4;
99.8%; Pred. No. 0;
iive 0; Mismatches
                                        Ginsburg SR,
                                                                                                                                                                                                                                  Example 2; Fig 15; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 99.8
Matches 2694; Conservative
                                        Patel CB,
                                                                            WPI; 2004-304563/28.
P-PSDB; ADO23599.
  BLIESE T R.
                                        Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
  (BLIE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
  2100
                                                                              2160
                                                                                                                  2160
                                                                                                                                                                                                                                                                         2280
                                                                                                                                                                                                                                                                                                               2340
                                                                                                                                                                                                                                                                                                                                                   2340
                                                                                                                                                                                                                                                                                                                                                                                         2400
                                                                                                                                                                                                                                                                                                                                                                                                                               2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                             2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATGTAACGCC
TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                2101 GGTCTGACCTGCTGGCTGGATTAAAAACAAACACATGAATGCAGACACGGATAC
                                                                                                                                                                                                                                                         GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                   AAGGGTCAACCATCCAAACCGTTCGTTGGTGAGCGCAGGTATTAACGCCGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAGCGGTTAATAAAGACAAAACCGCTGGGTGCCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCAGGGGTCGTCGACGATCGATGAAGCCCTGAAAGACGCGCAGACTAATTTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2641 AACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC
                                      TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                            GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                        TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                              TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                  GCATGGTCCAACATCGACACCCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                               AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                         CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGAACATCCCCCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA encoding MBP-ToxoP30del3C(52-300aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADO23598 standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUL-2004
                                                                                                                                                                                                                                                                       2221 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2461 '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
                                                                                                                                                                                                                                                                                                                                                                                       2341
                                        2041
                                                                                                                                                                                                                                                                                                             2281
                                                                                                                                                                                                                                                                                                                                                   2281
                                                                                                                                                                                                                                                                                                                                                                                                                               2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2581
                                                                                                                                                      2161
                                                                                                                                                                                            2161
                                                                                                                                                                                                                                  2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AD023598;
                                                                              2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AD023598
```

THE STATE OF THE S

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1320
                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                                                                    300
                                                                                                                       360
                                                                                                                                                         360
                                                                                                                                                                                              420
                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                     ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGGCAGCCATCGGAAGCTGTGGTATGCCTGTGCAGGTCGTAAATCACTGCATAATTCG
THECTGTGGGAAGCTGCCTGCACTAATGTTCCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTTAAATATCTCTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGGGAAGGCGACTGGAGTGCCGTTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCAAACCGCCTCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                    AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                       TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                              361 recreerecrategracaaccaaccecerceaaccreraaaccececerecaarc
                                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1201
                  181
                                                                                                                       301
                                                                                                                                                           301
                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                          g
                                                                                                            ò
                                                                                                                                                   요
                                                                                                                                                                                            8
                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and Toxo930 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence from MBP-Toxo30de13C(52-300aa), MBP-Toxo30de14C(52-294aa) and MBP-Toxo30mIX1 fusion proteins. (I) is useful for detecting the presence of IGM antibodies to Toxoplasma gondii in a test sample, which involves antibodies to Toxoplasma gondii in a test sample, which involves with a composition comprising (I) and detecting the presence of (I)/IgM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antibody complexes. The present sequence represents DNA encoding a MBP-Toxop30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCGAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                   P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 12; Length 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 7370 BP; 1900 A; 1856 C; 1950 G; 1664 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81.5%; Score 2690.4; 99.8%; Pred. No. 0;
                                                                                    DNA encoding MBP-ToxoP30MIX1 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 5; Fig 31; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antibodies to Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                          02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                        32-OCT-2002; 2002US-00263153
                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 2694; Conservative
                                                                                                                                                                                                                                                                                                                                                                                             MAINE G T.
PATEL C B.
GINSBURG S R.
BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                            Toxoplasma gondii.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P-PSDB; AD023640
                                                                                                                                                                                                                                                   US2004067239-A1.
                                                  01-JUL-2004
                                                                                                                                                                                                                                                                                    08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                           (MAIN/) (PATE/) (GINS/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                 (BLIE/)
```

g

ઠે

중 음

8 &

0y 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 1	### ### ### ### ### ### ### ### ### ##	(MAIN/) MAINE GT. (PATE/) PATEL C B. (GINS/) GINSBURG S R. (BLIE/) BLIESE T R. Maine GT, Patel CB, Ginsburg SR, Bliese TR; WPI; 2004-304563/28. P-PSDB; ADO23650. Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxoplasma gondii. Example 5; Fig 35; 114pp; English. The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del2C and Toxop90 MIXI sequence of genence in sequence of sequence of the C-terminus of the amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acids sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30del3C(52.30del3C(52.30del4C(52.294aa) and MBP-Toxo30MIXI fusion proteins. (I) is useful for detecting the presence of IgM
1261 TCAGGCAGCCATCGGAAGCTGTGGTATGCTGTAAATCACTGCATAATTGG 1320	ACAGGTT 1680	

```
ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACTTCACCAACAAGGACCATAGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                          CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTGATGCAGCTGGCACGACAGGTTT
                                                                                                                                         CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTT
                                                                                                                                                                                       GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                   TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                               TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAAACGGTT
                                                                                                                                                                                                                                                                                                                                                                               CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                          GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                  GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                           GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                      TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                  TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1981
                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                               1441
                                                                                                                                                                                                                                                                                                                                                                                                                                      1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1921
                                                                                 1021
                                                                                                        1021
                                                                                                                                                   1081
                                                                                                                                                                           1141
                                                                                                                                                                                                  1141
                                                                                                                                                                                                                       1201
                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                        1321
                                                                                                                                                                                                                                                                                                                                                                1381
                                                                                                                                                                                                                                                                                                                                                                                        1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1681
                                                          961
                                                                                                                              1081
              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
             유장
                                                  8 8
                                                                                                   g
                                                                                                                     S 8
                                                                                                                                                                         ઠે
                                                                                                                                                                                          qq
                                                                                                                                                                                                              8 %
                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                          ∂
                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                   ö
                                                                                                                                                                                     120
                                                                                                                                                                                                           120
                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    960
                                                                                                                                          9
                                                                                                                                                             9
antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-Toxop30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                               AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGGGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                           ACGCGCCGTCGCAAATTGTCGCGCGGCATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                          TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGTCTGCGTCTGGCTGGCTGGCTGATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            recececcarracceaerceeecrececerrecrecesararcreeragreearace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                       GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCGAGAGTATGCCG
                                                                                                                                                                                                                                  AACAACTIGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCCCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTTTTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                         CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAGGGGGGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                       cecedaaaaaagregaagceeceareeceaecreaarracarreccaacceereeca
                                                                                                                   Gaps
                                                                     Other;
                                                                                                                   .,
0
                                                                                             Length
                                                                       0
;;
                                                                                                                   Indels
                                                                     Sequence 7370 BP; 1900 A; 1857 C; 1950 G; 1663 T; 0
                                                                                                                   9
                                                                                             8
                                                                                          Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                                                                  o;
                                                                                          Query Match
Best Local Similarity 99.8%;
Matches 2694; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                              ч
                                                                                                                                                                                       61
                                                                                                                                                                                                           61
                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        යි පි
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
 88888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                   8 6 8
                                                                                                                                                                                                                                                                                                                                              8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                 6 6 6 6 6 6 6 6 6 6
                                                                                                                                         8 8
                                                                                                                                                                             6 B 6
                                                                                                                                                                                                                                                                                                                    õ
```

1620

1560

1680 1740 1740 1800 1860

1860 1920 1920

1800

1980

1980

2040

1500

1200

1200

1140

2280

2340 2340 2400 2400

```
CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040
                                         TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                     2580
                                                                                                                                                                                                                                                                                        GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                                      TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                           2580
                                                                                                                                                                                                                                                                                                                                                                                                                                 2640
                                                                                                                                                                                                                                                                                                                                                  2461 TIGGCGAAAGAICCACGTATTGCCGCCACTATGGAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2641 AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGGAAGGATTTCAGAATTC 2700
                      TATGAAAACGGCAAGTACGACATTAAAGACGTGGGGGTGGATAACGCTGGCGCGAAAGCG
                                                                 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACACACATGAATGCAGACACGATTAC
                                                                               TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGGGATGACCATCAACGGCCGTGG
                                                                                                                                TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                        GCATGGTCCAACATCGACACCAACCAACAAATGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT
                                                                                                                                                                                                                                             GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                              CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA encoding MBP-ToxoP30MIX3 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADO23644 standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-APR-2004
                                           2041
                                                                 2101
                                                                                      2101
                                                                                                                                  2161
                                                                                                                                                                             2221
  1981
                                                                                                             2161
                                                                                                                                                        2221
                                                                                                                                                                                                   2281
                                                                                                                                                                                                                                             2341
                                                                                                                                                                                                                                                                                         2401
                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                   2461
                                                                                                                                                                                                                                                                                                                                                                                                    2521
                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                          2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AD023644;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                   8
                                                        કે
                                                                                  용
                     ò
                                                                                                          8 6
                                                                                                                                                    ઠે
                                                                                                                                                                           윰
                                                                                                                                                                                                                  셤
                                                                                                                                                                                               ò
                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                       윱
                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                               용
                                                                                                                                                                                                                                                                                                                                                                                                                ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
```

02-OCT-2002; 2002US-00263153

(MAIN/) MAINE G T.

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and Toxo930 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acids sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence from MBP-Toxo30de13C(52-230aa), MBP-Toxo30de13C(52-294aa) and MBP-Toxo30de13C(52-300aa), MBP-Toxo30de14C(52-294aa) and MBP-Toxo30dMIX1

Contacting the test sample suspected of containing the IgM antibodies contacting the test sample suspected of containing the IgM antibodies

With a composition comprising (I) and detecting the presence of (I)/IgM acids of the invention comprising (I) and detecting the presence of (I)/IgM acids of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                    Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo500 MIX1, useful for detecting presence of IgM or 1gG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGGCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGAATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GIGICICITAICAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGATCATTAACTATCCGGTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 12; Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 7370 BP; 1900 A; 1857 C; 1950 G; 1663 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                          Bliese TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 81.5%; Score 2690.4;
99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                        Ginsburg SR,
                                                                                                                                                                                        Example 5; Fig 33; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 99.8 Matches 2694; Conservative
  PATEL C B.
GINSBURG S R.
BLIESE T R.
                                                       Patel CB,
                                                                                2004-304563/28
                                                     Maine GT,
(PATE/) (GINS/) (BLIE/) H
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

ö

	TGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAC 		1921 GAGATCCCGCCCTGGATAAAGAACTGAAAGCGAAAGCGTAAGAGACGCCCTGATCTTCAAC 1980 1921 GAGATCCCGGCGTGGATAAAGAACTGAAAGCGAAAGGGGGCGCTGATGTTTCAAC 1980 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGAGCGCGCTGATGTTCAAC 1980 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATGCTGCTGACGGGGGTTATGCTTCAAG 1981 CTGCAAGAACCGTTATCACTTGCCGCTGATTGCTGCTGACGGGGGTTATGCTTCAAG 2040	1041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACGGATTAC 2160 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220	GCATGGTCCAACATCGACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC	AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT Z CCGAACAAAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	CANGGGTTANTAAGACGACGCTGGGTGCCTGAGCCTGAGTCTTACGAGGAAGAG	61 TTGGCGAAA 21 CCGAACATC 21 CCGAACATC 21 CCGAACATC	2581 GCCACCAGCAGTCGTCAGACTGTCGTCAGAGAGCACCAGAGAGTTTTCGAGCTCG 2640 2581 GCCACCAGCACTCACACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTTCGAGCTCG 2640 2641 AACAACAACAACAAACAATAACAATAACAACAACCTCGGGATCGAGGAATTTCAGAATTC 2700	2641
ob Oy Db	ò a ò	da ya	\$ 6 6 6 6 6 6 6	o a o	do oy ob	S B S	8 & 8 8	8 8 8	8 % 8	à a à	Db RESULT
							, ,				
CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC	TGGTCGCATTGGGTCACCAGCAAATCGCGGTGTTAGCGGGCCCATTAAGTTCTGTCTCTGG	721 CGGAACGCGAAGGCGACTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780	1000 1000	ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC 960 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 102	1021 AGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAAGAAAA	CCCGACTGGGAAAGCGGGCAGTGGCCAATTAATGTGAGTTAGCTCACTCA	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260 1261 TCAGGCAGCGATCGGGTATGGCTGTGCAGGTGCAAATCACTGCATAATTCG 1320 1261 TCAGGCAGCCATCGGAAAGTGTGGGTATGGCTGTGAAATTCACTGCATAATTCG 1320 1261 TCAGGCAGCCATCGGAAAGTGTGATATGCTGTGTGAGTGGTAAATTCACTGCATAATTCG 1320	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1381 CTGGCAAATATTCTGAATGAGCTGTTGAAATAATCATCGGCTCGGTATAATGTGTGTG	CTGGCAAATATCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 144 ATTGTGAGCGGATAACAATTTCACACGGAACAGCCAGTCCGTTTAGGTGTTTTCACGA 150 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 150 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 150		561 ACCGGAATTAAAGCCTTGAGCCTCGGGTAAACTGGAAGAATTCGAGAAAGGT 162 661 ATTAACGGCGATAAAGGCTTGAGGTCTCGGTGAAGTCGGTAAGAATTCGAGAAAGAT 162 621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAAGAATTCCCACAGGTT 168

Wed Aug

360 360 420 420 480 540 540 009 600 099 99 720 720 780 780 840 840 900 900 960 960

```
AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                              ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                         TGGTGGTGTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                 TGGTGGTGGTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                               TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTCACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGAAACGGGAAGCGACTCGAGGTGTCGCTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGCTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCGACTGGAAAGCGGCCAGTGAGCGCAACGCAATTAATGTAAGTTAGCTCACTTAG
                                                                                                                  241
                                                                                                                                                                                                301
                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                                                              ò
                                                                                                                                                  g
                                                                                                                                                                               õ
                                                                                                                                                                                                                         임
                                                                                                                                                                                                                                                                         8 6
                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 anno acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in amino acid sequence of Toxo30del3C P30 antigen sequence is substituted which alanine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C(52-30daa), MBP-Toxo30del4C(52-294aa) and MBP-Toxo30MIX1 fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30de13C, Toxo510de12C, Toxo530de12C, Toxo530 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                             P30 antigen, Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GIGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches 6; Indels 0; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7403 BP; 1907 A; 1863 C; 1961 G; 1672 T; 0 U; 0 Other;
                                                                                                                                       DNA encoding MBP-ToxoP30del2(52-311aa) fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 2; Fig 11; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ginsburg
                         7403
                                                                                                                                                                                                                                                                                                                                                                                                                                            02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                  02-OCT-2002; 2002US-00263153
                                                                                                  01-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-304563/28.
P-PSDB; ADO23595.
                      ADO23594 standard;
                                                                                                                                                                                                                                                                 gondii
                                                                                                                                                                                                                                                                                                                     US2004067239-A1,
                                                                                                                                                                                                                                                                                                                                                               08-APR-2004
                                                                                                                                                                                                                                                            Тохоріавша
                                                                                                                                                                                                                                                                                      Synthetic
                                                            AD023594;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
AD023594

XXX AD02

AD02

AD02

AD03

AD04

AD05

AD07

AD07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 8 8
```

1020

	Search completed: August 1, 2005, 04:28:37 Job time : 1101.6 secs	
1261 TCAGGCAGCATTCGGAAGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320	1621 ACCGGANTTANAGTCACCGTTGAGGATCGGGATAACTGGAAGAGAAATTCCCACAGGTT 1680 1621 ACCGGANTTANAGTCACTGTGAGATCGGGATAACTGGAAGAGAAATTCCCACAGGTT 1680 1681 ACCGGANTTANAGTCCCGTTGAGATCGGGAAGAGAAATTCCCACAGGTT 1680 1681 ACCGCAACTGGCCCTGACATCTCTTCTCTCTGGGACACACGGCTTTGTTGTTT 1800 1741 GCTCAATCTGGCCCTGAAATCCCCCGGACACACCGCCTTTGTTGTTT 1800 1741 GCTCAATCTGGCCTTGAAATCACCGCCGCAAAACCTGCTTTT 1800 1741 GCTCAATCTGGCCTTGAAATCACCGCCGACAAACCTGTTTT 1800 1741 GCTCAATCTGGCCTTGAAATCACCGCGACACACGCTCACGTTTT 1800 1801 CCGTTTACCTGGGATGCCGTAAATCACCGCGACACACGCTTACTCCGATGCTTTT 1800 1801 CCGTTTACCTGGGATGCCGTAAATCACCGCGACACACGTTACCCCGACACACGTTTCACACGCTTTTTTTACACACGCCACACACGTTACCCCGACACACGTTTCCCGATGCTTTT 1800 1801 CCGTTTACCTGGGATGCCGTAAATCACCGCGCACACACGTTACCCCGACACACGTTTCACCGACACACGTTTCACCCGACACACGTTTCACCCGACACACGTTTCACCCGACACACGTTTCACCCGACACACGTTTCACCCGACACACGTTTCACCCGACACACGTTTTTTTACACACGCCACACACGTTACCCCGACACACGTTTCACCCGACACACCTGAAACCCTCACACACA	2341 CCGAACAAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA

THIS PAGE BLANK (USPTO)

```
AX768200 Sequence
AX768203 Sequence
AX768203 Sequence
AF140577 Integrati
AX41356 Sequence
AY219685 Expressio
AY219686 Expressio
AY219689 Expressio
AY219689 Expressio
AY219689 Expressio
AY219683 Shuttle e
AY219684 Shuttle e
AY21968 Sequence
AX478528 Sequence
AX478528 Sequence
AX478528 Sequence
AX478528 Sequence
AX478528 Sequence
AX478528 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. .3300
/organism="synthetic construct"
/mol_type="unassigned DNA"
/mol_xref="taxon:32630"
/note="Partial sequence of pMal-m1 and zinc finger protein
ZFPm1"
                                                                                                                                                                                                                                                                                                                                                                                                                    PAT 30-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCAATTCAGGGTGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GIGICITITATCAGACCGITITCCCGCGTGGTGAACCAGGCCAGCCACGITICTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Barbas, C.F., Stege, J.T., Guan, X. and Dalmia, B.
Methods and compositions to modulate expression in plants
Patent: WO 0152620-A 14 26-JUJ-2001;
The Scripps Research Institute (US); SYNGENTA AGRICULTURAL
DISCOVERY, INC. (CA)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                     DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                synthetic construct
synthetic construct
other sequences; artificial sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 3300;
100.0%; Pred. No. 0;
live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                              3300 bp
Sequence 14 from Patent WO0152620.
AX202426
                                                                                                                                                                                                                                                                                                                                                        ALIGNMENTS
                                                                                                                                                   AY219684
AF177933
AF177932
AY302759
AY289542
                                    AF140577
AX431576
AY219685
AY219686
AY219688
AY219689
                                                                                                                          AY219682
AY219683
                                                                                                                                                                                                                 AR493834
AR493835
  AX768200
AX768202
AX768203
                                                                                                                 AY219687
                                                                                                                                                                                                                                         AF050464
                                                                                                                                                                                                                                                       AY243506
                                                                                                                                                                                                                                                                                          AB116367
                                                                                                                                                                                                                                                                   CQ846977
                                                                                                                                                                                                                                                                                                                   AR373251
                                                                                                                                                                                                                                                                                                                                                                                                                                                        AX202426.1 GI:15392173
                            Query Match 100.
Best Local Similarity 100.
Matches 3300; Conservative
  49935
49451
49451
49451
4951
4959
4968
6956
7018
7509
                                                                                                                                                                            4635
6399
6587
5201
5201
4806
1922
4506
4557
  1400.8
1400.8
1400.8
1400.8
                                                                                                                                                                                                                                                     1238.4
1237.2
1237.2
1204
1204
                                                                                                                          1417.6
1417.6
1417.6
                                                                                                                                                                                                                                          1329.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                        1417.
1417.
1417.
1417.
                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                           RESULT 1
AX202426
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AX202426 Sequence
AX202430 Sequence
AX202430 Sequence
AX202428 Sequence
AX203429 Sequence
AX174306 Sequence
AX17531 Sequence
AX17531 Sequence
AX17532 Sequence
AX17533 Sequence
AX17753 Sequence
                                                                                      July 31, 2005, 20:22:50 ; Search time 9276 Seconds (without alignments) 17238.272 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CQ794769 Sequence
CQ846980 Sequence
AX768201 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Description
                                                                                                                                                                                                                                                        9416466
              GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                             4708233 segs, 24227607955 residues
                                                                                                                                                                                                                                                     Fotal number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AR031992
AR207294
AX377532
AF097412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AF031088
AF031813
CQ794769
CQ846980
AX768201
                                                               nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AX202426
AX202427
AX202430
AX202429
AX202428
AX202428
AX203428
AX3034344
AX172306
AX377531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AX378208
                                                                                                                                                                                                    Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                             seq length: 0
seq length: 2000000000
                                                                                                                                       US-09-765-555B-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gb_ro:*
gb_sts:*
gb_sy:*
gb_un:*
                                                                                                                                                                                                                                                                                                                                                                               gb ba: *
gb nrg: *
gb om: *
gb ow: *
gb ph: *
gb pl: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3300
3300
7373
8101
6648
7475
7475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9191
6724
6806
6706
6706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5558
4700
4921
                                                                                                                                                                                         IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                     GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          997.4
882.0
882.0
881.8
811.8
811.8
811.8
811.4
749.7
749.7
448.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0
100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3226.4
3215.2
3207.2
2705.8
2705.8
2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2700
2700
2698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2676.2
2636.8
2631
2598.2
1609.4
1474
                                                                                                                                                    Perfect score:
                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
                                                               OM nucleic
                                                                                                                                                                                                                                                                               Minimum DB
Maximum DB
                                                                                                                                                                Sequence:
                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                     Database
                                                                                        Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
```

AUTHORS Barbas, C.F., Stege, J.T., Guan, X. and Dalmia, B. TITLE Methods and compositions to modulate expression in plants JOURNAL Patent: WO 0152620-A 15 26-UUJ-2001; The Scripps Research Institute (US); SYNGENTA AGRICULTURAL DISCOVERY, INC. (CA) FEATURES 1. 3300 /organism="synthetic construct" / mol type="unassigned DNA" / / / / / / / / / / / / / / / / / / /	y Match Local Similarity 100.0%; Score 3300; DB 6; Length 3300; Local Similarity 100.0%; Pred. No. 0; hes 3300; Conservative 0; Mismaches 0; Indels 0; Gaps	CGGACACCATCGAATGGTGCGAAACCTTTCGCGGTATGGCGCCCGGAAGAGA	121 GTGTCTTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCA	181 CGCGGGAAAAGTCGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 241 AACAACTGGCGGCAAACGTCGTTGCTGATTGCCACCTCCAGTCTGGCCTCGC [301 ACCCCCTCCCAAATTGTCCCCCCCTTCCCCCTCCCCCCCC	361 TGGTGGTGTCGATGGTAGAACGGGGGTCGAAGCCTGTAAAGCGGCGGTGCAATC	Db	541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC	Qy 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTG	Oy 661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCGCAAATCAAATTCAGCCGATAG 720	Qy 721 CGGAAGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAGA 780	781 ATGAGGGATCGTTCCCACTGCGATGCTTGCCACGATGAGGGGCTGGGCGCAAAAAAAA
Qy 2401 GAAGCGGTTAATAAAACCAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 Db 2401 GAAGCGGTTAATAAAACCGCTGGGTCCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 Qy 2461 TTGGCGAAAAGTCCCGTATTGCCGCCACCATGGAAAAGGTCAAATCATG 2520 Db 2461 TTGGCGAAAAGATCCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Qy 2521 CCGAACATCCCGGAATGTCCGCTTTTCTGGTATGCCGTACTGCGGTGATCAACGC 2580 Db 2521 CCGAACATCCCGGAATGTCCGCTTTTCTGGTATGCCGTACTGCGGTGATCAACGC 2580 Db 2521 CCGAACATCCCGCAGATGTCCGCTTTTCTGGTATGCCGTACTGCGGTGATCAACGC 2580	Oy 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 Db 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 Oy 2641 AACAACAAACAATAACAATAACAACAACAACCACCGATTCGGGGAAGGAA	Db 2641 ACCACCACACAACAACAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700 Qy 2701 GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCGGGGAGAAGCCCTATGCTTGT 2760 Db 2701 GGATCCTCTTCTGTGGCCCAGGCGGCCCTCGAGCCCGGGGAAAGCCCTATGCTTGT 2760	Qy 2761 CCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCCACCAGCGTACCAC 2820 Db 2761 CCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACTGGTGCGCCACCAGCGTACCAC 2820 Qy 2821 ACGGGTGAAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGCAAC 2880	Db 2821 ACGGGTGAAAACGGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC 2880 Qy 2881 CTGGTGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940 Db 2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940	Qy 2941 AAGTCTTTCTCGGGCTGACAATCTCGGCACCAACGTACTCACACCGGGAGAAG 3000		Oy 3121 CAGGCCGGCCACCTGGCCAGCCATCATCATACTGGCGAGAGCCATACAATGT 3180	1181 CCAGAATGTGGCAAGTCTTTCTCTGGCTCTGACAATCTCGTCGGCACCAACGTACTCAC 1181 CAGAATGTGGCAAGTCTTTCTCTGGGTCTGACAATCTCGTCGGCACCAACGTACTCAC	Oy 3241 ACCGGTAAAAAACTAGTGGCCAGCCAGCCGTACCGTACGACTTCCGACTAGGCT 3300 1241 ACCGGTAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACTTCCGGACTACGCT 3300		2175	SOURCE synthetic construct ORGANISM synthetic construct other sequences; artificial sequences.

ద S &

. synthetic construct synthetic construct other sequences; artificial sequences.

REFERENCE

1921 GAGATCCCGGCGCTGGATAAAGAACCGAAAGGTAAGGCGCGCTGATGTTCAAC	2101 GGTCTGACCTTCCTGGTTGACCTCGATTAAAACAAACCATGAATGCAGACACCGATTAC 2160	2221 GCATGGTCCAACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 AAGGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAAACGGTATTAACGCCGCCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340		2461 TTGGCGAAAGATCCACGTATTGCCGCCACGAAAACGCCCAGAAAGGTGAAATCATG 2520	2581 GCCAGGGTCGTCAGATGAAGCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 [2701 GGATCTCTTCTCTGTGGCCCAGGGGCCCTCGAGCCCGGGGAGAAGCCCTATGT 2760 [2821 ACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAATCTTTTAGCCAGTCCAGCAAC 2880 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAATCTTTTAGCCAGTCCAGCAAC 2880 2881 CTGGTGCGCCATCAACGCACTCATACTGCGAGAAGCCATACAATGTCCAGAATGTGGC 2940 2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940 2941 AAGTCTTTCTCTGGGTCTGACAATCTCGTCCGGCACCAACGTACACACGGGGAGAAG 3000 2941 AAGTCTTTCTCTGGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACGGGGAGAAG 3000 2941 AAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACGGGGAGAAG 3000 3001 CCCTATGCTTGCCTGGAATGTGTTCGTCCGGCACCAACGTACTCACCGGGGAGAAG 3000 3001 CCCTATGCTTGTCCGGAATGTGTAAAGTCCTTCAGCCGCACCACGGGGAGAAG 3000
8 8 8 8 8	8 6 6 6	6 8 6 8 6	2 4 3 4	8686	8 6 8 6	8 6 6 6	6 8 6 8 6 8 6
Qy 841 TGCGCGCCATTACCGAGTCCGGGCTTGGTGCGGATATCTCGGTAGTGCGGATACG 900 Db 841 TGCGCGCCATTACCGAGTCCGGGCTTGGTGCGGATATCTCGGTAGTGGGATACG 900 Qy 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACATCAAACAGGATTTTC 960 Db 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 Qy 961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGAGCCAGGCGGTAA 1020 Db 961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCT	1021 AGGGRATCAGCTGTTGCCCGTCTCACTGGTGAAAGAAAAACGCCTGGCGCC 1021 AGGGCATCAGTGTGTGAAAAAAAAAACGCTCTTGCTGAAAAAAATGAAAAAAAA	1141 CCCGACTGGAAAGGGGGAGTGAGGCAATTAATGTGAGTTAGCTCACTGATTAG 120 1141 CCCGACTGGAAAGGGGGGGGGGCGCACGCAATTAATGTGGGTGAGCTCACTGATTAG 120 1141 CCCGACTGGAAAGGGGGGGGGGGCGACGCAATTAATGTGGGTTAGCTCACTGTTAG 120 1201 GCACAATTCTCATTTGACAGCTTATCATCGACTGCAGGTGCACCAATGCTTCTGGGG 126 1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCAGGTGCACCAATGCTTCTGGGG 126 1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCAGGTGCACCCAATGCTTCTGGCG 126	1261 TCAGGAGCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320	Qy 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 Db	1501 GCACTTCACCAACAAGGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 15	1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGATAAACTGGAAGAAATTCGAGAAAGT 162 1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGATAAACTGGAAGAAATTCCCACAGGTT 168 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAAGAAA	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCGGACAAAGCGTTCCAGGACAAGCTGTTTGTT

169TGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGTGCACAATC 420 169TGGTGTCGATGGTAGAACGAAGCGGCGTCCACAATC 420 169TGGTGTCGATGGTAGACGGGCGTCCACAATC 420 421 TTGCTGGCGAAGCGTGCACAATC 420 421 TTCTGGCGCAACGCTCGATGGTCATTAACTATCCGCTGGATGACCAGGATGCCA 480 481 TTGCTGTGGAAGCTCGTGGGTTGATTATTTCTTGGTTGATGCCAGGATGCCA 480 481 TTGCTGTGGAAGCTGCTGAATGTTCCGGCGTTAATTTCTTGATGTTCTGGATGCCAGA 540 481 TTGCTGTGGAAGCTGCACAATGTTCCGGCGTTAATTTCTTGATGTTCTGACGAGATGCCAGA 540 481 TTGCTGTGGAAGCTGCACTAATGTTCCGGCGTTAATTTCTTGATGTTCTTGATGTTCTTGACGACGCGCGGA 540 541 CACCCATCAACGATAATTTCTCCCCATGAAGCGCGTCGAGCATC 600 601 TGGTCGCATCAACAATTATTTCTCCCATGAAGCTACGGCGTCGAGCATC 600 601 TGGTCGCATTAGTTATTTTCTCCCATGAAGCGCCCATTAAGTTCTTGTCCGG 660 661 161TGTCGCATTAGCTACCAATTAACTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCCCATTAAGTTCTTCTCTCTC	61 CGCGTCTGCGTCTGGCTGGCATAATATCTCACTCGCAATCAAT	1021 AGGCCATCAGCTGTCACTCGTGAAAAGAAAACCACCCTGGCGCCCCATA 1080 1021 AGGCCATCAGCGCCCCATA 1080 1021 AGGCCATCAGCTGTTGCTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCCATA 1080 1081 CGCAAACCGCTCTCCCCGCGGTTGGCCGATTCATTAATGCAGCTGGCGCCCATTA 1140 1141 CCCGACTGGAACCGCCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGGATT 1140 1141 CCCGACTGGAAACCGCGCGTGGCGCATTCATTAATGCAGCTGGCACGGATTGGTT 1140 1141 CCCGACTGGAAACCGCGCGTGGCGCAATCATTAATGCAGCTGCACACGCTTAG 1200 1201 GCACAATTCTCATTGAACGCCCAACGCTGCAATGCTCATTGG 1200 1201 GCACAATTCTCATTGAAGCGGCAGCGCCAACGCTGCAATGCTTCATTGG 1200 1201 GCACAATTCTCATTGAAGCGGCAACGCAACGCTGCAATGCTTCATTGG 1320 1201 GCACAATTCTCATGATTGAAGCGGCAACGCAACGCTGCAAAATCCTGGCG 1260 1201 GCACAATTCTCATGATGAGCTGAAAACGCGCAACGCTAAAATCCTAAATTCG 1320 1261 TCAGGCAGCCATCGGAAGCGGCAACGCTGCAAAATCATGAAATCG 1320 1261 TCAGGCAGCCATCGGAAGCGGATGGTGGATAATTCG 1320 1321 TGTCGCTCAAAGCGGCACTCGGATAATTTTTGCGCCGACATCATAACGGTTGATAATTCG 1320 1321 TGTCGCTCAAAGCGGCACTCCGATAATTTTTTGCGCCGACATCATAACGGTTGATAATTCG 1320 1321 TGTCGCTCAAAGCGCTCCCTTTAACGCTCGAAAATCATCATAACGGTTGAAATCGTTGAGATTAATTCTGAAATGATCATCAGAAATAATCTTAACGCCCGACATCATAATGTGTGGA 1440 1381 CTGGCAAAATATCTGAAATGACTTGACAATTAATCATCGCCTCATAAATGTGTGGA 1440 1381 CTGGCAAATATTCTGAAATGACCTTGACAATTAATCATCGCCTCATAAATGTGTGGA 1440 1381 CTGGCAAATATTCTGAAATGACCTTGACAATTAATCATCGGCTCTTAAGGTGTTTAACGCTTAAATGTGTGGA 1440 1381 CTGGCAAATATTCTGAAATGACCTTGACAATTAATCATCGGCTCTTAAGGTGTTTAAGGTGTTTAACGCTCTTAAGGTGTTTAAGGTGTTTAACGCTCTTAAGGTGTTTAAGGTGTTTAACGCTTAAATGTGTGGA 1340 1381 CTGGCAAATATTCTGAAATGACCTTGACAATTAATCATCGGCTCTTAAGGTGTTTAACGCTTAAATGTGTGGA 1340 1381 CTGGCAAATATTCTGAAATGACCTTGAAATTCATCAGCTTAAATGTGTGGA 1340 1381 CTGGCAAATATTCTGAAAACACCTTGAAATTAATCATCGGCTCTATAATGTGTGGA 1340 1381 CTGGCAAATATTCTGAAATGACCTTGAAATAATCATCGCTTAAAATGTGTGGA 1340 1381 CTGGCAAAATATCTCGAAAATCATCAACAGCTCTAAAATCATCAACACTTAAATGTGTGGAAAACACACTTAAATCAACACAATAAACACACTCAAAAACACACAAAAACACACAAAAACACACAAAAACACA
6 8 6 8 6 8 6		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
	AX202430 LOCUS LOCUS LOCUS AX202430 LOCUS ACCESSION AX202430 AX202	Query Match 97.8%; Score 3226.4; DB 6; Length 3300; Best Local Similarity 98.6%; Pred. No. 0; 90.6%; Pred. No. 0; Matches 3254; Conservative 0; Mismatches 46; Indels 0; Qy 1 CCGACACCATCGAATGGTGCAAACCTTTGGCGGTATGGCATGATGGCCCGGAAGAG 60 60 Db 1 CCGACACCATCGAATGGTGAAAACCAGTAACGTTATACGATGTCGCAGAGTATGCC 120 Qy 61 GTCAATTCAGGGTGGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCC 120 Qy 121 GTGTCTCTTATCAGGTGGTGAATGTGAAACCAGTAACGATATTCCCAGAGTATGCCAGAGTATGCCAGAGTATGCCAGAGTATGCCAGAGTATGCCAGAGTATGCCAGTTCTCGCAGAGTATACATTCCCAGCAGGCAAACGGTTTCCCGGGGCAGCAGGCAG

25	2761 2761 2821 2821 2881	AAGTCITTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACCCGGGGAGAAG	3121 3181 3241 3241	RESULT 4 RESULT 4 AX202429 LOCUS LOCUS DEFINITION Sequence 17 from Patent W00152620. AX202429 AX202429 AX202429 AX202429 VERSION REYWORDS SOURCE SOURCE SOURCE AVADORS AXA02429 OURGANISM STATE SEQUENCES; ATTIFICIAL SEQUENCES. REFERENCE AUTHORS Barbas, C. F., Stege, J. T., Guan, X. and Dalmia, B. AUTHORS Barbas, C. F., Stege, J. T., Guan, X. and Dalmia, B. THE SCRIPPS THE SCRIPPS THE SCRIPPS LOCATION/Qualifiers SOURCE ADDITION SYNGENTA AGRICULTURAL DISCOVERY, INC. (CA) FEATURES 1. AND STATE STA
	1681 GGGCAACTGGCGTGACTTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920		221 GCATGGTCCAACATCGACACCAGCAAGTGCATTATGGTCTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAGTGCAATTATGGTCTAACGGTACTGCCGACCTTC 2280 2281 AAGGGTCCAACCTCCAACCGTTCGTTGGCGTGCTCAGCGCGGCGGT 2340 2281 AAGGGTCAACCATCCAACCGTTCGTTGGCGTGCTCAGCGCAGTATAACGCCGCCAGT 2340 2341 CCGAACAAAGACCGTTCGTTGGCGTGCTCAGCGCAGTATTAACGCCGCCAGT 2340 2341 CCGAACAAAGAGCTGCAACCGTTCGTTGGCGTGCTCAGTGAACGGTCTGATGAAGGTCTG 2400 2401 GAAGCGGTTAATAAAGACTTCCTCGAAAACTATCTGCTGATGAAGGTCTG 2400 2401 GAAGCGGTTAATAAAGACAACCGCTGGGTGCCGTAGCGGTGAAGTCTTACGAGGAAGGG 2460 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGGGGCGCTGAAGTCTTACGAGGAAGGG 2460 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGGGGCGCGCTGAAGTCTTACGAGGAAGAG 2460 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGGGGCCGCAGAAAGTCTTACGAGGAAGAG 2520 2461 TTGGCGAAAGATCCCACGATTGCCGCCCCAGGAAAACTCTTACGAGGAAGAG 2520 2461 TTGGCGAAAGATCCCACGATTGCCGCCCCAGGAAAACGCCCAGAAAGGTGAAATCATG 2520 2521 CCGAACAACCCGTTTTCGGGCCCCCAGGAAAGGTGAAATCATG 2520 2521 CCGAACAACCCGCAGAATGCCGCCACGAAAAGGTGAAATCATG 2520 2521 CCGAACAACCCGCTTTTCTGGTATGCCGCCCAGAAAGGTGAAATCATG 2520 2521 CCGAACAACCCCACAATGCCGCCACAGAAAGGTGAAATCATG 2520 261 TTGGCGAAAGATCCCGCACAATGCCGTCGGGAAAACGCCCAGAAAGGTGAAATCATG 2520 261 TTGGCGAAAGATCCCGCCACAATGCCGCCCAGAAAGGTGAAATCATG 2520 261 TTGGCGAAAGATCCCGCCACAAAGGTGAAAACTGCCGCCCAGAAAGGTGAAATCATG 2520 261 TTGGCGAAAGATCCCGCCACAAAGGTGAAAACTGCCGCCCAGAAAGGTGAAATCATGCCGCCCAGAAAGGTGAAATCTAACGCCCAGAAAGGTGAAATCTAACGCCCAGAAAGGTGAAATCTAACGCCCAGAAAGGTGAAATCTAACGCCCAGAAAGGTGAAATCTAACGCCCAGAAAGGTGAAATCTAACGCCCAGAAAGGTGAAAACTAACGCCCAGAAAGGTGAAACTCAAGGTGAAACTCTAACGCCCAGAAAGGTGAAACTCAAGGTGAAACTCTAACGCCCAGAAAGGTGAAACTCAACGCCCAGAAAGGTGAAAACTCAAGGTGAAACTCTAACGCCCAGAAAGGTGAAACTCAAGGTGAAACTCTAACAGCCCCAGAAAGGTGAAACTCAAGGTGAAACTCTAACGCCCAGAAAGGTGAAACTCAAGGTGAAACTCTAACGCCCAGAAAGGTGAAACTCAAGGTGAAACTCTAACGCCCAGAAAGGTGAAACTCAAGGTGAAAACTCAAGGTGAAACTCAAGAACAACTCAAAAACAACCCAAAAACAACCCAAAAACAACA

8 6 8 6 8 6 8 6 8 6 8 6 8

Qy 3181 CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC 3240 Db 3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCGTCACCAACGTACTCAC 3240 Qy 3241 ACCGGTAAAAAAACTAGTGGCCAGGCCGGCCAGTACGACGACTACGACTACGGT 3300 Db 3241 ACCGGTAAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACTACGGT 3300	RESULT 5 AX202428 LOCUS AX202428 LOCUS AX202428 SETULTION Sequence 16 from Patent WO0152620. ACCESSION AX202428 VERSION AX202428.1 GI:15392176 KEYWORDS	SOURCE SOURCE SOURCE ORGANISM Synthetic construct OCHET SEQUENCES; artificial Sequences. REFERENCE 1 AUTHORS Barbas, C.F., Stege, J.T., Guan, X. and Dalmia, B. TITLE Methods and compositions to modulate expression in plants JOURNAL THE SCHOOL STEADOR A 16 26-JUL-2001; The Scripps Research Institute (US); SYNGENTA AGRICULTURAL	DISCOVERY, INC. (CA) PEATURES Location/Qualifiers source 13300 /organism="synthetic construct" /mol_type="unassigned DNA" /db_xref="taxon:32630" /noe="PArtial sequence of pMal-m3 and zinc finger protein grapm:"	ORIGIN Query Match Query Match Best Local Similarity 98.2%; Pred. No. 0; Matches 3242; Conservative 0; Mismatches 58; Indels 0; Gaps 0;	Oy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGTGATAGCGCCCGGAAGAGA 60	Db 61	181	Qy 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 Db 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCACCTCCAGTCTGGCCCTGC 300 OV 301 ACGCGCGCGCGAAATGTCGCGAATAAAATCTCGCGCCCAATGAAATGCTGAATGAA	301 ACGCGCCGTCGCAAATTGTCGGCGCGTTAAAATCTCGCGCCGATCAACTGGGTGCCAGCG 361 TGGTGGTGTCGATGAAGCGGCGTCGAAGCCGGCGGGGGGGG	421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 	Db 481 TIGTGTGGAAGCTGCCTGCACTAATGTTCCGGGGTTATTCTTGATGTCTCTGACGAGA 540
2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACACCGATTAC 2160	2221 GCATGGTCCAACATCGACAAGGGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	1341 CCGAACAAGGCTGGCAAAAGGTTCCTCGAAAACTATCTGCTGACTGA	2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	GCTCG 		CCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCCCTGGTGCCCCCCCC		2881 CTGGTGCGCCATCACGCCACCATCATACTGGCGAGAGCCCATACAAATGTCCAGAATGTGGC 2940 2941 AAGTCTTCTCTCGGTCTGACAATCTCGTCCGCCACCAACGTACACACCACACGGGGAGAAG 3000	2941 AAGTCTTTCAGTGATTGTGGTGATCTTGGGAGGCACCAAGGTACTCACCGGGGGGAGAAG 3000 3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCGCAGCGATAACCTGGTGCGCCAC 3060	CAGGGTACCCACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC CAGGCCGGCCACCTGGCCAGCCATCAACGCACTCATACTGGCGAAAGCCATACAAATGT	3121 CGCAGCGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180

8 8 8

6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6

STATE CONCECUTION CONTRINGED CONTRION

AKEFLENYLLTDEGLEAVNKDKPLGAVALKSYEEELAKDPRIAATWENAQKGEIMPNI PQWASFWYAYTAVINAASRQTVDBEALKDAQTWSSNRNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN	Query Match 82.0%; Score 2705.8; DB 6; Length 7373; Best Local Similarity 99.2%; Pred. No. 0; 0.	CUGACACCATCGAATGGTGCAAAACCTTTCGGGGTATGGCGCCCGGAAGAA 60	181 CGCGGGAAAAACTGGAACGGCATGGCGAGCTGAATTACATTCCCACCGCGTGGCAC 2	301 301 301 301 301 301	Oy 421 TTCTCGCGCAACGCTCACTCATTAACTATCGCTGGATGACCAGGATGCCA 480	OY 541 CACCCATCAACAGTATTATTTCCCCATGAAGACGGACTGGGCGTGGACGTGCGGCGTGGGCGTC 600	CGGGTCTGCGTCTGGCTGGCATAAATATCTCGCTCGCAATCAAATTCAGCC
282 282 282 288 288 294	2941 2941 3001	3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCCC 306 3061 CAGCGTACCCACACGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 312	DB 3121 GACTGCCGCGACCTTGCTCGCCATCAACGCACTGCTACTGGCGAGAAGCCATACAATGT 3180 QY 3181 CCAGAATGTGGCAAGTCTTCTCTCGGTCAAAATCTCGTCCGCCACCAACGTACTCAC 3240 Db 3181 CCAGAATGTGGCAAGTCTTCTCCCAATCCAGCCATCTCGTCGGCACCAACGTACTCAC 3240 QY 3241 ACCGGTAAAAAAAATGTGGCCAGCCGCGCAGCATCCGGCACTTCGGACTTCGACTTCGACTTCGACTTACAACATACGACTTACGACTTACGACTTACGACTTACGACTTACGACTTACGACTTACGACTTACGACTTACGACTTACGACTTACGACTTACGACTTACGACTTACAACAACAACAACAACAACAACAACAACAACAACA	Db 3241 ACCGGTAAAAAACTAGGGCCAGGCCGGCCAGTACCGTACGACTTCCGGACTACGCT 3300 RESULT 6 AX284144 LOCUS AX284144 7373 bp DNA linear PAT 20-NOV-2001 DEFINITION Sequence 1 from Patent W00178756. ACCESSION AX284144 VERSION AX284144 KEYWNDROS	Б В В	0 0	1528 1528

Wed

 03-JUL-2001 Goubin-Gramatica, F., Ducommun, B. and Prevost, G.
Method for obtaining human cdc25 phosphatases and method for
Identifying human cdc25 phosphatases modulators
Patent: WO 0144467-A 2 21-JUN-2001;
SOCIETE DE CONSEILS DE RECHERCHES ET D'APPLICATIONS SCIENTIFIQUES

8 8 8

ठे

8 & 8

8 B 8

요

8 8 6 8 6 8 6

8 6 8 6 8 6 8 8

ઠે

```
1080
                                            1020
                                                                                                      1080
                                                                                                                                                                                                   1260
                                                                                                                                                                                                                                        1320
                                                                                                                                                                                                                                                                             1380
                                                                                                                                                                                                                                                                                                                   1440
                                                                                                                                                                                                                                                                                                                                                          1500
                                                                                                                                                                                                                                                                                                                                                                           1500
                                                                                                                                                                                                                                                                                                                                                                                               1560
                                                                                                                                                                                                                                                                                                                                                                                                                 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                    1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1980
                GCCTGCTGGGGGGAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                          GCCTGCTGGGGCAAACCAGCGTGGACGCTTGCTGCTACTCTCTCAGGGCCAGGCGGTGA
                                                                               AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                               TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                               CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG
                                                                                                                                                                                                                                                                       TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                       CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                       1501 GCACTTCACCAACAAGGACCATAGAATTGAAATTGAAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                          GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                       ATTGTGAGCGGATAACAATTTCACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCCAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                  1021
                                                                                                                                                           1141
                                                                                                                                                                              1141
                                                                                                                                                                                                                   1201
                                                                                                                                                                                                                                                        1261
                                                                                                                                                                                                                                                                                             1321
                                                                                                                                                                                                                                                                                                                                                       1441
                                                                                                                                                                                                                                                                                                                                                                         1441
                       901
                                                             961
                                                                               1021
                                                                                                                     1081
                                                                                                                                        1081
                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                                                                                                 1381
                                                                                                                                                                                                                                                                                                                                   1381
                                                                                                                                                                                                                                                                                                                                                                                                                                 1561
                                           961
                                                                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1981
     8 6
                                   8 B 6 B 6 B 6 B 6 B 6 B 6 B 6
                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                         8 8
                                                                                                                                                                                                                                                                                                                                                                                          8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                           ö
                                                                                                                                                                  120
                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                      120
                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                             9
                                                                                                                              9
                                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                           ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                 TGGTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAACACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGCTGTGGAAGCTGCCTGCATAATGTTCCGGGGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCGTTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCTGGCAAAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAACGGGAAGGCGACTGGAGTGCCATGTTCAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGCGATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                           Gaps
                                                                                        8101;
                                                                                                           ö
                                                                                        Length
                                                                                                          Indels
                                                          Cdc25C
                                                                                        . 9
        Location/Qualifiers
1. 98.01
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="souche JM109 / pMAL - Hs (
                                                                                                         5
                                                         8
                                                                                       В
                                                                                     Score 2705.8;
Pred. No. 0;
0; Mismatches
                                                                                                         °
                                                                                     Query Match
Best Local Similarity 99.9%;
Matches 2707; Conservative (
(FR)
                                                                                                                           Н
                                                                                                                                                                61
                                                                                                                                                                                  61
                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
          FEATURES
                                                                 ORIGIN
```

/note="Plasmid pMAL-c2x"	Query Match 81.8%; Score 2701; DB 6; Length 6648; Best Local Similarity 99.8%; Pred. No. 0; Matches 2704; Conservative 0; Mismatches 5; Indels 0; Gaps 0;	Oy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	Qy 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120 Db 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGAAGTATGCCG 120	Qy 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAA 180 bb 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCAGGTTTCTGCGGAAAA 180	Qy 181 CGCGGGAAAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 Db 181 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	Qy 241 AACAACTGGCGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC 300	Qy 301 ACGCCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360	Qy 361 TGGTGGTGGATGGTAGAAGGGGGGTCGAAGCCTGTAAAGCGGGGGGGG	Qy 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480 Db 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480	Qy 481 TTGCTGTGGAAGCTGCCTGCACTAATTCCTGGCGTTATTCTTGATGTCTCTGACCAGA 540 bb 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540	Qy 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGACGTGGAGCATC 600 bb 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGAGCGTGGAGCATC 600	Qy 601 TGGTCGCATTGGGTCACCAGAAATCGCGCTGTTAGCGGCCCATTAAGTTCTGTCTCGG 600 LI	
	OY 2041 TATGAAAACGCAAGTACGACATTAAAGACGTGGGCGTGGTAACGCTGGCGGGAAAGCG 2100 	OY 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAACATGAATGCAGACACCGATTAC 2160	OY 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGGGATGACCATCAACGGCCCGTGG 2220	OY 2221 GCATGGTCCAACATCGACAACGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	Qy 2281 AAGGSTCAACCATCCAAACCGTTGGCGTGCTGAGGGCAGGTATTAACGCCGCCAGT 2340 Db 2281 AAGGSTCAACCATCCAAACCGTTGGCGTGCTGAGGGCAGTATTAACGCCGCCAGT 2340	OY 2341 CCGAACAAAGAGTGCGAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	QY 2401 GAAGCGGTTAATAAAGACAAACGGCTGGGGGCGCTGAAGTCTTACGAGGAAGAG 2460	OY 2461 TTGGCGAAACATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	Qy 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTACTGCGGTGATCAACGCC 2580	OY 2581 GCCAGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	OY 2641 AACAACAACAACAATAACAACAACACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700	Qy 2701 GGATCCTCT 2709 Db 2701 GGATCCTCT 2709	RESULT 8 AX377531 AX

QY 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAACACACATGAATGCAGACACCGATTAC 2160 Db 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAACAACAACAACAACAACAACAACAACAACAA	(2)—(2)	Qy 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGATACGGTACTGCCGACCTTC 2280	OY 2281 AAGGGTGAACCATCCAAACCGTTGGGGTGCTGAGGGAGTATTAACGCCGCGGT 2340	Qy 2341 CCGAACAAAGAGTTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	OY 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGGTGCCGTGAAGTCTTACGAGGAAGAG 2460	OY 2461 TIGGCGAAAGATCCACGTATIGCCGCCACCAIGGAAAACGCCCAGAAAGGTGAAATCAIG 2520 Db 2461 TIGGCGAAAGATCCACGTATIGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCAIG 2520	Oy 2521 CCGAACATCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTATCAACGC 2580	OY 2581 GCCAGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCCAGACTAATTCGAGCTCG 2640 Db 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	OY 2641 AACAACAACAATAACAATAACAACAACTGGGATGGGGATGGAGGATTCAGAATTC 2700 Db 2641 AACAACAACAATAACAATAACAACAACCTCGGGATGAGGGAAGGATTTCAGAATTC 2700	Oy 2701 GGATCCTCT 2709 		Sequence 1 from Patent A91965 A91965.1 GI:6740811	SOURCE unidentified ORGANISM unidentified unclassified REFERENCE 1 (bases 1 to 7475)	AUTHORS Attwood, M.R. and Hurst, D.N. TITLE ANTIVIRAL PEPTIDE DERIVATIVES JOURNAL PATENTE, WO 9822496-4 1 28-MAY-1998; HOFFMANN LA ROCHE (CH)	Qualifiers = "unidentifi	/mol_type="unassigned DNA" /db_xref="taxon:32644"	Query Match 81.8%; Score 2700; DB 6; Length 7475; Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	Qy 1 CCGACACCATCGAATGGTGCAAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60
	1081 GCAAACGGCCTCTCCCCGGGGTTGGCCGATTCATTAATGCAGCTGGCGCGCGGTTT 1140 1081 GCAAACGGCCTCCCCGGGGTTGGCCGATTCATTAATGCAGCTGGCACGGCTTT 1140 1081 GCAAAACGGCTCTCCCGGGGGGGGGGGGGGGGGGGGGGG	ATTAG	GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGCGCCCAATGCTTCTGGCGCGCCAATTCTCATGTTTCATCATCGACTGCACGGTGCACCAATGCTTCTGGCGCGCCAATGCTTCTGGCCGCGAATGCTTCTGGCCGCCAATGCTTCTGGCCGCCAATGCTTCTGGCCGCCAATGCTTCTGGCCGCCAATGCTTCGCCGCCAATGCTTCGACGCTTGCAATGCTTCTGGCCGCCAATGCTATCAATGCTTCTGGCCGCCAATGCTATCATCAATGCTTCTGGCCGCCAATGCTTCTGGCCGCCAATGCTTCTGCCGCCAATGCTTCTGGCCGCCAATGCTTCTGCCGCCAATGCTTCTGCCGCCAATGCTTCTGCCGCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCCAATGCTTCTGCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCCAATGCTTCTGCCCCAATGCTTCTGCCCCAATGCTTCTGCCCCAATGCTTCTCTGCCCCCAATGCTTCTGCCCCAATGCTTCTGCCCCAATGCTTCTCTCTGCCCCAATGCTTCTCTGCCCCAATGCTTCTCTCTC	ATTCG ATTCG	CGGTT 	GTGGA GTGGA	CA-CG A-CG A-CG A-CG A-CG A-CG	TCTGG 1 	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACCGCTTTGGTGGCTAC 1740 	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCGTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCGGATGGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920	CAAC 1	CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGCGCTTATTGCT		2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100

1141 CCCGACCGACACCACCCACCCACCCACCCACTATATATACCACTACTA
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
1 CORPORTION CORPORATION CORPORATION

음

ò

8 8

ઠે 셤 ð යි සි g QQ

ठे

g

용

ò

ò

ORIGIN

8 8

ઠે 유 કે

셤

à.

	RESULT 11 AR207294 LOCUS LOCUS LOCUS DEFINITION Sequence 1 from patent US 6372883. ACCESSION AR207294 VERSION AR207294.1 GI:21506162 KEYWORDS SOURCE UNKnown. ORGANISM Unclassified. REFERRENCE 1 (bases 1 to 7475) AUTHORS Attwood, M. Richard., Hurst, D. Nigel., Jones, P. Stephen., Kay, P. Brittain., Raynham, T. Michael. and Wilson, F. Xavier. TITLE Antiviral medicaments JOGRAL Patent: US 6372883-A 1 16-APR-2002; FRATURES SOURCE 1 (bases 1 to 7475) 1 (Asy, P. Brittain., Raynham, T. Michael. and Wilson, F. Xavier. Location/Qualifiers source 1 . 7475	/organism="unknown" /mol_type="unassigned DNA" Query Match guery Match guery Match 81.8%; Score 2700; DB 6; Length 7475; Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	
1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1381 TGTCGCTCAAGGCGCACTCCGGATCATAACGGTT 1380 1381 CTGGCAATAATGTCTGAATGACGTTTGACGAATTAATCATCGGCTCGTATAATGTGTGGAA 140 1411		1921 GAAGGCTTATCGCTGATTTATATACAAGGCTGCTGCTGCTGCTGCCGAACCCGCCAAAACCTGGGAA 1920 1921 GAAGGCTTATCGCTGATTATATACAAAGCCAAAGCCGCCCAAACCCTGGGAA 1920 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGCGAAGAGCGCGCTGATGTTCAAC 1980 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGCGAAGGCGCTGATTGCAGTTCAAC 1980 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040 2041 TATGAAAACGGCAAGTACGACTTAAAAGACGTGGGCGTGAAACGCTGGCGCGAAAGCG 2100 2041 TATGAAAACGGCAAGTACAATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 2041 TATGAAAACGGCAAGTACAACTTAAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100	2101 GGTCTGACCTTCCTGGTTGAAAACAAACATGAATGCAGATAC 2160 2101 GGTCTGACCTTCCTGGTTGATTAAAACAAACATGAATGCAGACACGGTTAC 2160 2101 GGTCTGACCTTCCTGGTTGACTGATTAAAACAAACACACATGATGCAGACACCGGTTAC 2160 2101 GGTCTGACCGAGAAGCTGATTAAAAACACACACACACACA

GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGGTAAACTGGTAATCTGG 156 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAAGGTAAACTGGTAATCTGG 156 GCACTTCACCAACAAGGACTATAGATTATGAAAACTGAAAGAAA	1801 CGGTTTACCTGGGATGGTTACAGGGGGGGTGGTTGCTTACCCGGTGGTT 1860 1801 CGGTTTACCTGGGATGGTTACAGGGCAGGCTGTTTGCTTACCTGGTT 1860 1801 CGGTTTACCTGGGATGCGTTACAGGCCAGGCTGATTGTTACCTGTTT 1860 1801 CGGTTTACCTGGGATTTATAACAAAGATCTGCTGCCGAACCCGGCAAAAACCTGGGAA 1920 1921 GAGATCCCGGCGCTGGATTTATAACAAAGAACTGCTGCCGAACCCGCCAAAAACTGGGAA 1920 1921 GAGATCCCGGCGCTGGATTTATAACAAAGAACTGAAAGCTGCGAACCGCCAAAAACTGGGAA 1920 1921 GAGATCCCGGCGCTGGATTATAAAGAACTGAAAGCTAAGAGCGCGCTGATGTTCAAC 1980 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGAGCGCGCTGATGTTCAAC 1980 1981 CTGCAAGAACCGTACTTCCTGCCCCTGATTGCTGTTCAAC 1960 1981 CTGCAAGAACCGTACTTCACTGCCCCTGATTGCTGCTGGCGGGTTATGCGTTCAAG 2040 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGGGGATAACGCTGGCGCAAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100	10 GGTCTGCACCTCCTGATTAAAACAACACATGATTGCAGACCCGATTAC 21 GGTCTGCACCTCCTGTTGACATTAAAACACACATGATTGCAGACCCGATTAC 21 GGTCTGCACCTTCCTGGTTGAAACACACATGATTGCAGACCCGATTAC 21 GGTCTGCACCTTCCTGGTTGAATTAAAACACACATGATTGCAGACCCGTTTAC 21 GGTCTGCAGAAGCCTTTAATAAAAGCGAAACAGCGATGACCATCAACGGCCCGTGG 22 H H H H H H H H
6 8 6 8 6 8 6 8 6	8 6 8 6 8 6 8 6	6
421 TTCTC 421 TTCTC 481 TTGCT 481 TTGCT 541 CACCC 541 CACCC 601 TGGTC 601 TGGTC 661 CGCGT 661 CGCGT	Qy 721 CGGAACGGAACGCACTGGACTGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780 Db 721 CGGAACGGGAACGCGACTGCCATGTCCGGTTTTCAACAACCATGCAATGCTGA 780 Ta TGGGGAACGCGATGCCATGCCATGTCCATGCATGCAACGCATGCAATGCTGA 780 Qy 781 ATGAGGGCATCGTTCCCACTGCCATGCTGTTGTTCCCAACGATCAGTGGCGCAA 840 Db 781 ATGAGGGCATCGTTCCACTGCGATGCTGGTTGTTGCAACGATCAGTGGCGCAA 840 Qy 841 TGCGCGCCATTACCGAGTCCGGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 Bb 841 TGCGCGCCATTACCGAGTCCGGGCTTGGTGGGGATATCTCGGTAGTGGGATACG 900 C 841 TGCGCGCCATTACCGAGTCGGGGTTGGTGGGGATATCTCGGTAGTGGGATACG 900 Bb 901 ACGATACCGAAGACCAGGTTGTTATATCCGGCGTTAACCACCATCAAACAGGATTTTC 960 C 1	961 GCCTGCTGGGGCAAACCAGGGTGGACTGCTGCAACTCTCTCAGGGCCAGGGCCAGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGGCCAGCCAGCCCCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGCCAGC

us-09-765-555b-15.rge

			901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA 1080 	cgcaaaccgctctccccgcgcgttggccgattcattaatgcagctggcacgacaggttt 	CCCGACTGGAAAGCGGCCAGTGAGCGCAATTAATGTGAGTTAGCTCACTTAG [GCACAATTCTCATGTTTGACAGCTTATCATCGCACGGTGCACCAATGCTTCTGGCG		TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCCGCCACATCATAACGTTTTTGCGCCCGACATCATAACGTTTTTTGCCGCCGACATCATAACGTTTTTTGCGCCCGACATCATAACGTTTTTTGCGCCGACATCATAACGTTTTTTGCGCCGACATCATAACGTTTTTTGCGCCGACATCATAACGTTTTTTGCACACATCATAACGTTTTTTGCACACATCATAACGTTTTTTGCACACATCATAACGTTTTTTTGAACACATCATAAACGTTTTTTTGAACACAACAACAACAACAACAACAACAACAACAACAACA	CTGGCAAATATTCTGAAATGAGTGTTTGATTAATCATCGTGTGTGT	ATTGTGAGCGGATAACAATTTCACAGAGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 		1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGGT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680
a & a	3 8 5 8 5	3 8 3 8	8 8 8	oy Q	ර යි	රු අ ද	S G	S 8 8	S 8 5	දු දු	ga .	g g	상 임	ò
	RESULT 12 AX377532 LOCUS AX377532 LOCUS AX377532 BETINITION Sequence 9 from Patent W00212553. ACCESSION AX377532 VERSION AX377532 KEYWORDS AX177532.1 GI:19573718	ORGANISM synthetic construct ORGANISM synthetic construct Other sequences; artificial sequences. REFERENCE 1 AUTHORS Kappel, A., Polakowski, T., Pignot, M., Windhab, N., Behrensdorf, H. and Muth, J. TITLE Method for detecting mutations in nucleotide sequences	NAL ES ource	ORIGIN Query Match Best Local Similarity 99.8%; Pred. No. 0; Matches 2701; Conservative 0; Mismatches 5; Indels 0; Gaps 0;	SCAAAACCTTTCGCGGTATGGCATGATAGCGCCGGAAGAGA 60	Qy 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120 Db 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120	QY 121 GTGTCTTTATCAGACCGTTTCCGGGGGGAAACCAGGCAGCCAGC	OY 181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	Oy 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 [OY 301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360	Qy 361 TGGTGGTGTCGATGGTAGAAGCGGCGTCGAAGCCTGTAAAGCGGGGGGGG	Qy 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTGGATGACCAGGATGCCA 480 Db 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTTGGATGACAGGATGCCA 480	481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA	Db 481 TIGCIGIGGAGGIGCCIGCACTAATGITCCGGGGTTAITTCTTGATGTCTCTGACCAGA 540 Oy 541 CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGGGGCTGGGCGTGGAGCATC 600

ø

ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680

1621

셤 ò ያ ያ 셤 ò g ò 셤 g

ઠે 셤 ઠે

ò

g

à 유 ò 요

셤 ઠે

ò

8 ò g

8 6 ò 윱

ద ठ

8 8 8

g

```
AF097412 6724 bp DNA circular SYN 28-JAN-2002
Expression vector pMBP-parallell, complete sequence.
AF097412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon gtart=1
/trans_table=11
/prodein_id=MacHabsesor"
/protein_id=MacHabsesor"
/protein_id=MacHabsesor"
/brotein_id=MacHabsesor
/db_xref="G1:3983121"
/translation="MacHabsesor"
/tra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NKGETAMT INGPWAMSNI DTSKYNYGVTVLPTFKGGDESETAMGERANG
AKEFLENYLLIDEGLEAVNKOKPLGAVALKSYEEELAKDPRI AATWENAQKGEIMPNI
POMSAFWYAVRTAVI NAASCRQTVDEALKDAQTNSSSNNNNNNNINGI DTTENLYF
QGAMDPEFKGLIRREAGLYRELSNIEPAVSRHAVPSLALAVULQRRDWENPGVTQLNRL
AAHPPFASWRNSEEARTDRPSQQLRSLINGEWQLGCFGG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sheffield, P.J., Garrard, S.M. and Derewenda, Z.S.
Sheffield, P.J., Garrard, S.M. and Derewenda, Z.S.
Direct Submission
Submisted (05-007-1998) Molecular Physiology and Biological
Physics, University of Virginia, 4215 Jordan Hall, 1300 Jefferson
Park Avenue, Charlottesville, Virginia 22908, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                    of RhoGDI using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="Tobacco etch virus protease cleavage site"
2711. .2810
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Expression vector pMBP-parallell"
/mol_type="other bNA"
/db_xref="taxon:84479"
204..il63
                                                                                                                                                                                          Expression vector pMBP-parallell
Expression vector pMBP-parallell
other sequences; artificial sequences; vectors.
1 (bases 1 to 6724)
Sheffield, P., Garrard, S. and Derewenda, Z.
Overcoming expression and purification problems (family of 'parallel' expression vectors
Protein Expr. Purif. 15 (1), 34-39 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1453. 1481
/note="tac; inducible promoter"
1528. 2994
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               spacer region'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="protein
2689. .2709
                                                                                                                                               GI:3983120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="laciq"
204. .1163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="lacig"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2633. .2688
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1. .6724
                                                                                                                                               AF097412.1
                                                                                                                                                                                                                                                                                                                                                                                                                                  10024467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        promoter
                                                                LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                RESULT 13
AF097412
                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                    1800
                                                                                                                                                                                                                        1860
                                                                                                                                                                                                                                                                                                                           1920
                                                                                                                                                                                                                                                                                                                                                                                                                               1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2160
                                                                                                                                                                                                                                                                                                                                              CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cráckadakcióractricactrideciderriderideridadogórirarderridad 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2161 TCCATCGCAGAAGCTGCCTTTAATAAGGCGAAACAGGGATGACCATCAACGGCCCGTGG 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                          GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                     GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAAACACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                             CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2221 GCATGGTCCAACATCGACAGCAAGAATTATAGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2461 TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAAGGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGATCC
                                                      1691
                                                                                                   1741
                                                                                                                                                         1741
                                                                                                                                                                                                             1801
                                                                                                                                                                                                                                                             1801
                                                                                                                                                                                                                                                                                                                 1861
                                                                                                                                                                                                                                                                                                                                                                 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1981
  1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2041
                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2701
```

```
1680
                                                                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                1140
                                                                                                                                                                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                                                                                                                                                      1200
                                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                                                                                                                         1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1860
                                                                                                                                                                                                1020
                                                                                                                                                                                                                          1020
               780
                                                                840
                                                                                          900
                                                                                                                  900
                                                                                                                                             960
                                                                                                                                                                                                                                                                                                      CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAACCTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                  AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                            GCACAATICTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                              GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCACTICACCAACAAGGACCATAGATTATGAAAATCGAAGAAGGTAAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGCCAACTGGCGATGGCCCTGACATTATCTTGGGCACACGACCGCTTTGGTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT
               CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                       ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                        TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGTATCTCGGTAGTGGGATACG
                                                                                                                   recececcarracedagrecegerrecegricerecegararerecegrages
                                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                 GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                    AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGATAAACTGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCEGNATIVAAAGTCACCETTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1741
                                                                                                                    841
                                                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1801
                                                                781
                                                                                          841
                                                                                                                                                                       901
                                                                                                                                                                                                                            196
               721
                                       781
                                                                                                                                               901
                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   상
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            상
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Д
                                                                                                                                                                                                                                                                                                                                                                                                                               Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
               8 8
                                                        g
                                                                                  ò
                                                                                                               셤
                                                                                                                                    8
                                                                                                                                                               g
                                                                                                                                                                                               8 8
                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                   $ B $
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                     /codon_start=1
/transl_table=11
/producf="beta-lactamase"
/producf="beta-lactamase"
/producf="beta-lactamase"
/protein_id="AAG03814_1"
/db_xref="G1:3083123"
/db_xref="G1:3083123"
/franslation="MSIQHFRVALIPPFAAFCLPVFAHPETLVKVKDAEDQLGARVGY
/ELDLMSGKLLESFREERSFWMSTFKVLLCGAVLSRVDAGDGCJCGRRIHYSGNDLVB
YSPVTEKHLTDGMTVRELCSAAITMSDNTAANLLLTTIGGPKELTAFLHNMGDHVTRL
DRSALPAGWFIADMSGAGERGSRGIIAALGFBCTAFLASRQQLIDWMEADBKNAGPL
LRSALPAGWFIADMSGAGERGSRGIIAALGFBCFFRITASRQCLIDWMEADBKNAGPL
EIGASLIKHW"
                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCCCCTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCACAGA
                                                                                                                                                                                                                                                                                                                    CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGGTAGGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATGACGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                          GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAGGCGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                         GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                            GIGICICITIAICAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCGCGCAAACGCGTCAGTGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cecercrecercrescrescrescaraararcrescrescarcaarreascearas
                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                 6724;
                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                 12;
                                                                                                                                                                                                                                                                 DB
    Bite"
                                                                                                                                                                                                                                                              Score 2676.2;
Pred. No. 0;
0; Mismatches
/note="multiple cloning s 3426. .4356 3426. .3454 3426. .3454 3426. .3454 3496. .4356 396-="bla"
                                                                                                                                                                                                                                                               81.1%;
larity 99.9%;
Conservative (
                                                                                                                                                                                                                                                                             Best Local Similarity
Matches 2678; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                  Match
                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                         promoter
                                                                CDS
                                                                                                                                                                                                                                                                  Query
                                                                                                                                                                                                                                       ORIGIN
```

g

ઠે

ઠે

8 B

d ठे 8 6 8 6

8 & 8

6 6 6 6 6 6

ብ **ራ**

g

Wed

8 8

ద

8 6

ò g ò 요 ò 8 8

음 강 엄 ò ብ **ት**

යි දි 요 원

ઠે

8 8

8 8

용

ò

```
maltose binding protein
                                                                                                                                                  ö
                                                                                                                                                                                                              120
                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                   CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAGGGGAATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                      AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                               ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                         TGGTGGTGGTGGTAGGAACGAAGCGGCGTCGAAGCCTGTAAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTTCTTGATGTCTTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCGCGCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGAATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGGGAAGGCGACTGCCATGTCCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                ö
                                                                                                                            Length
                                                                                                                                               2; Indels
      to WO 0206306-A 194 24-JAN-2002;

ACIA & UPJOHN COMPANY (US)

Location/Qualifiers

1. 6806

/organism="unidentified"
/mol_type="unassigned DNA"
/db_tref="taxon:32644"
/noce="fusion protein comprising a mawith 125 amino"
                                                                                                                          9
                                                                                                                           8
                                                                                                                        79.9%; Score 2636.8;
llarity 99.9%; Pred. No. 0;
Conservative 0; Mismatches
                                                                                                                                  cal Similarity
2638; Conserv
        Patent: WO
PHARMACIA
                                                                                                                      Query Match
Best Local S
Matches 2638
                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                 Н
                                                                                                                                                                                                           61
                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                        source
        JOURNAL
                                                                                                   ORIGIN
                                                                                                                                                                                엄
                                                                                                                                                                                                        8 6
                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                           8686
                                                                                                                                                                                                                                                                                                                                                                                                                 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                            2040
CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCGGATCGCTGTT 1860
                                                                                       1980
                                                                                                                                                    2100
                                                                                                                                                                       2100
                                                                                                                                                                                             2160
                                                                                                                                                                                                                  2160
                                                                                                                                                                                                                                      2220
                                                                                                                                                                                                                                                          2220
                                                                                                                                                                                                                                                                               2280
                                                                                                                                                                                                                                                                                                  2280
                                                                                                                                                                                                                                                                                                                       2340
                                                                                                                                                                                                                                                                                                                                            2340
                                                                                                                                                                                                                                                                                                                                                                 2400
                                                                                                                                                                                                                                                                                                                                                                                   2400
                                                                                                                                                                                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                                                                                                                                                             2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGGTGCTGCGGTGCTGCGGTGCTGCGGTACACGCC 2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAT 18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yan, R., Tomasselli, A.G., Gurney, M.E., Emmons, T.L., Bienkowski, M.J. and Heinrikson, R.L. Substrates and assays for \_g(b)-secretase activity
                   GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGACGCGCGCTGATGTTCAAC
                                                                         CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                  2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                       GGTCTGACCTTCCTGGTTGACTGATTAAAAACAAACATGAATGCAGACACGATTAC
                                                                                                                                                                                                  GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                    TATGAAAACGGCAAGTACGACATTAAACACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                               TCCATCGCAGAAGCTGCCTTTAATAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                  2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACAGCATGA
                                                                                                                                                                                                                                                                                                                                                                      2341 CCGAACAAAAAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGCTGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                             GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                  2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGGCGAAAGATCCACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCAGCGGTCGTCAACTGTCGATGAAGCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2581 GCCACGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCCAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACAACAACAATAACAATAACAACAACCTCGGGATCGA 2681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6806 bp 1
WO0206306.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       inidentified unidentified unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AX378208
                                         1861
                                                                                 1921
                                                                                                                         1981
                    1861
                                                            1921
                                                                                                                                               2041
  1801
                                                                                                      1981
                                                                                                                                                                                                                                 2161
                                                                                                                                                                                                                                                                        2221
                                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                                                                                                     2281
                                                                                                                                                                                       2101
                                                                                                                                                                                                                                                                                                                                                           2341
                                                                                                                                                                                                                                                                                                                                                                                                   2401
                                                                                                                                                                                                                                                                                                                                                                                                                                            2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                              2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 14
AX378208
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
```

1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCGTTCAAG 2040	RESULT 15 AF031088 LOCUS DEPINITION Shuttle vector pMAL-pIII, complete sequence. ACCESSION AF031088 VERSION AF031088 VERSION AF031088.1 GI:2623821 KEYWORDS SOURCE ORGANISM Shuttle vector pMAL-pIII NEFERENCE AUTHORS Shuttle vector pMAL-pIII NEDLINE PUBMED 9784192 NEFERENCE AUTHORS Noren, X.A. and Noren, C.J. TITLE JOURNAL Shuttle vector pMAL-PIIII OCORDINGLE SUBMISSION JOURNAL Beverly, MA 01915, USA SOURCE // Organism="Shuttle vector pMAL-PIII" // Mol_type="genomic DNA"
10	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1620

ij

120 180 180 240 240 300

9

360 300

360 420 480

480 540 540

900 900 999 099 720 720 780 780

```
361 İGGİĞGİĞİTÇĞAİĞGİAĞAACĞAAĞCĞĞCĞICĞAAĞCÇIĞIAAAĞCĞĞĞĞĞĞĞĞĞAĞAİÇ 420
                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATATGCCG
                                                                                                                                                                                                                                                                                                                                                                                  GIGICICITATCAGACCGITICCCGCGTGGTGAACCAGGCCAGCCAGCTITCTGCGAAAA
                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                              CGACACCATCGATGGTGCAAAACCTTTCGCGGTATGGGATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAAAGCGGCGATGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGAGGGCATCGCTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arcadedcarcerrecearecreerrecratecaacearcadareececreera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                  60;
                                                                 Length 6706;
                                                                                                               Indels
                                                                                                             ,
,
                                                               DB 12;
                                                            Score 2631; DB; Pred. No. 0; 0; Mismatches
                                                       79.78;
97.78;
                                                       Query Match
Best Local Similarity 97.7
Matches 2704; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              196
          ORIGIN
                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               $ B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         / Solution | Linase | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Start=1 | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codon | Codo
                                                                                                                                                                                                                                                        /codon statt=1
/trans[_table=1]
/product="lac_repressor"
/product="lac_repressor"
/product="lac_repressor"
/product="lac_repressor"
/product="lac_repressor"
/product="lac_repressor"
/product="lac_repressor"
/product="lac_repressor"
/db_xxef="ad1:263822"
/translation="MKPVTLDVDAYAGVSYQTVSRVVNQASHVSAKTREKVBAMAB
LNYIPNRVAQQLAGGSLIGVATSSIALHAPSQIVARIKSRADGIGASVVVSMVBRS
LNYIPNRVAQQLAGGSLIGVATSSIALHAPSQIVARIRALAGMRYLTENGOTPINSII
PSHEDGTRLGVEHLVALGQQTAGNALVANDQNALGANRATTERSGLRVGADISVVGYDDT
PSESSOYIPPTTIKQDPRALLAGGTSVDRLLGQTSQUANGALDPVSLVKRKTTLAPNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="Gi:2623823"
/translation="MKKLLFALPLVVPFYSHSADMKIEEGKLVIWINGDKGYNGLAEV
GKKFEKDTGTKTVEHPDKLEEKFPOYAATGGOEDIIFWAHDRGGYAGGLLAEITP
DKARQDKLYPFWDGARYNGKLIAYPIAVAGALSLIYNKDLLENPPKWEEIPALDKEI
KAKGKSALMFNLQEPYFTWPLIAADGGYAFKYENGKYDIKOVGVDNAGAKAGLIFELVD
KAKGKSALMFNLGEPYFTWPLIAADGGYAFKYENGKYDIKOVGVDNAGAKAGLIFELVD
KAKGKSALMFNLGEPYFTWPLIAADGGYAFKYENGKYDIKDFYPGGOE
KPFVGYLSAGINAASPRKEELAKEFLENYLLTDEGLEAVNKDKFLGAVALKSFEELAK
DPRIAATMENAQKGEIMPNIPQMSAFWYAVRTAVINAASGRGTVDBALKDAQTNSSSN
NONNNNNNLGIEGERISERSESSENVLOASLAAAVULQRRDWENPGYTGLNRLAAHPPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /producE="maltose binding protein-lacZ alpha peptide fusion protein precursor" 
/protein_id="AAB86559.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1582. .2973

'Gene="malE-lacZa fusion"
/product="maltose binding protein-lacZ alpha peptide fusion protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   M13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="derived from commercially available vector (New England Biolabs)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note="R-plasmid ampicillin resistance gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene="malE-lacZa fusion"
note="M13 secretion signal sequence"
                                                                                                                                                                                                                                      note="transcriptional repressor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ASWRNSEEARTDRPSQQLRSLNGEWQLGCFGG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4381. .4893
/standard_name="M13 origin (+ -)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QTASPRALADSLMQLARQVSRLESGQ"
1406. .1433
xref="taxon:69327"
                                                                                             'gene="lacI"
'note="E. coli gene"
                                                                                                                                                                  gene="lacI"
                                                                                                                                                                                         i. .1163
gene="laci"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3478. .4338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EIGASLIKHW"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="bla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rep_origin
                                                                                                                                        promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
```

1020 1020

960

840 840



```
Wed Aug
```

```
BQ751936 EST632499
CK394523 hggada4D0
CK118014 218106.p1
BQ751655 EST632218
BQ751220 EST631783
CB863541 HH04A08y
AL038548 DKFZp566
AL038548 DKFZp566
AL044483 DKFZp54341
EBJ063872 BJ063872
CB863814 HH07B20y
AL044483 DKFZp4441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIO124a
AY080094
AY080094
AV59564C
AV59434B
DKFZp434A
PRIO130b
DKFZp434B
DKFZp434B
DKFZp434B
                                                                                                                                                                           2, 2005, 10:29:49; Search time 6743.2 Seconds (without alignments) 18627.964 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                               1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CK118014
80751255
80751265
80751265
CB863541
AL038548
AL04483
BB063872
CB863814
AL045353
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC655575
AC65557
AC65557
AC65557
AC65557
AC65557
AC65557
AC65557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC6557
AC657
AC6557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         68479088
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34239544 segs, 19032134700 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                               OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BQ751936
CK134523
CK134523
CK12654
BQ751655
BQ751220
CB65341
AL044483
BAC63874
AY080106
AX080106
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
AX0801094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL039416
AL045341
AL037051
CA895956
                                                                                                                                                                                                                                                                                                                                                                                                                    IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                 US-09-765-555B-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9b est1:,

9b est2:,

9b htc:,

9b est4:,

9b est6:,

9b gss1:,

9b gss2:,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match Length
                                                                                                                                                                                 August
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST:
                                                                                                                                                                                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       563.2
562.6
549.4
546.8
                                                                                                                                                                                                                                                                                                                                                                                                                    Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB E
Maximum DB E
                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database
                                                                                                                                                                              Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

CK394349 hggada2D0 AL039077 DKFZp566G CB862524 HH04B08U AL048427 DKFZp586H AL042909 DKFZp586H CA881974 K0994C10- AL038811 DKFZp566C CA890032 B0156F05- CB862099 HH06A02y CA886082 B0124F04- AL044407 DKFZp44- AL044407 DKFZp434D CA895436 B0192A07- AL039076 DKFZp566G AL038025 DKFZp566G AL038025 DKFZp566G AL039128 DKFZp566C CK394397 hggada2H1 CB862715 HH03F14U AL039589 DKFZp566C CK394397 hggada2H1 CB862715 HH03F14U AL039589 DKFZp5434D CA887583 B0137H04- AL039649 DKFZp434G	NTS	DN EST632499 DSCT Colletotrichum trifolii cDNA clone pDSCT8-67, mRNA sequence. N B0751936. B0751936.1 GI:21907341 BST. Colletotrichum trifolii SM Colletotrichum trifolii Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes; Sordariomycetes sincertae sedis; PN11achorales; PN11achoraceae; mitosnoric PN11achoraceae; Colletotrichum.	D., Van Aken,S., Utterback,T., chum trifolii race 1	Puford Circle, St. Paul, MN 55108, USA n.edu V More information is available at: ACt AtA ggg C).	1794 /organism="Colletotrichum trifolii" /mol type="mcNA" /strain="race 1" /db_xref="taxon:5466" /db_xref="taxon:5466" /clone="pbScT8-67" /tissue_type="wycelia" /tissue_type="mycelia"
CK394349 AL039077 AL048427 AL048427 AL042909 CA8811974 AL030811 CA980032 CB62099 CA8862099 CA8862099 CA884367 CCR62715 AL039649 CA887583 AL039649 CA887583	ALIGNMENTS 794 bp	totrichum t 341 1ii lii comycota; I trae sedis, Irrae sedis, Irraesene: Col	s 1 to 794) A., Dickman, M., Town, C. and Fraser, C.M. n mycelia of Colletotri ed (2002) Ts. EST632498 Deborah A. Samac	Department of Plant Pathology University of Minnesota 495 Borlaug Hall, 1991 Upper Buford (Tel: 612 625 1243 Fax: 651 649 5058 Email: 6abbys@puccini.crl.umn.edu TIGR sequence name: MTSAH67TV More in www.medicago.org Seq primer: GtA AtA CgA CtC AtA Seq primer: GtA AtA CgA CtC AtA	Colletotriic mRNA. cc 1. cc 1. cc 1. cr 2. cr 3. cr 4. cr 4. cr 5. cr 6. cr 6. cr 7.
61611672116117		111e	4) an, ser of) 249 A.	nes 19 19 Ata	mm = "ra = "ra trop ion = " in = " in = " in = " in = " in = "
648 7344 7340 7340 7369 7369 7369 7369 7369 7369 7369 7369		GI:21 Chum tr Chum tr Chum tr Fungi; Cetes i	1 to 79 , Dickm and Fra mycelia d (2002 : EST63	of Pla of Min of Min 25 1243 25 1243 49 5058 bys@puc nce nam go.org go.org	1794 /mol type="" /mol type="" /mol type="" /mol type="" /stain="ra /db xref="ty /clone="pbs" /clone="pbs" /lab, note="vert /clone lib= /note="vert enriched RN Stratagene R
16. 2 16. 2 16. 2 16. 2 16. 2 16. 2 16. 2 16. 2 16. 2 16. 3 16. 3 16. 4 16. 3 16. 3	51936	EST632499 sequence. B0751936 B0751936.1 EST. Colletotri Colletotri Eukaryota;	(bases ac, D.A. ung, F. s from ublishe er ESTs	artment versity Borlau : 612 6 : 651 6 il: deb il: deb .medica	7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
4	BO7	EST 8eq BQ7 BQ7 EST CO1 CO1 CO1 Sor	Sam Sam Che EST Unp Oth Con	Dep Uni Uni 495 Fax Fax Ema TIG Seq	
5.40 + 5.50 + 5.		Z Z E			9 2 2
22222222222222222222222222222222222222	RESULT 1 BQ751936 LOCUS	ACCESSION VERSION KEYWORDS SOURCE ORGANISM	REFERENCE AUTHORS TITLE JOURNAL COMMENT	FEATURES	source
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	LOS	SOU SOU	CON	PE7	
					

```
779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             507
                                                                                                                    ORGANISM
                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                        TITLE
                                               VERSION
KEYWORDS
SOURCE
                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
E. coli Y1090 and phage DNA was purified from a liquid lysate. The CDNA inserts were gel purified after ECORI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DHSalpha which were plated onto medium with X-gal for selection of recombinants."
                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       482
                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATCTG 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAGTTCAGCGGATAGCG 722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGCAC 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                62
                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGCCGTCGCAAATTGTCGCGCCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAAAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                        GACACTTTCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                     CAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                             CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGGTGTCGATGGTAGAAGGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gregitaricarecrassasces de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GICGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACGGGAAGGCGACTGGAGTGCCGATGTTCCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAACGGGGAAGCGACTGGAGTGCCATGTCCGGGTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                   ö
                                                                                                                                                                                   Length 794;
                                                                                                                                                                                 Score 778; DB 5; Length 79
Pred. No. 4.9e-219;
0; Mismatches 10; Indels
                                                                                                                                                                                 Query Match
23.6%;
Best Local Similarity 98.7%;
Matches 784; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     196
                                                                                                                                                                                                                                                                                                                                                                     63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                    ठे
                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
```

CK394523 779 bp mRNA linear EST 30-DEC-2003 hggada4D08 Gland Cell Amplified cDNA Library Heterodera glycines

CK394523/c LOCUS PEFINITION

```
Heterodera glycines

Heterodera glycines

Heterodera glycines

Heterodera glycines

Eukaryota; Metazoa; Nematoda; Chromadorea; Tylenchida; Tylenchina;

Tylenchoidea; Heteroderidae; Heteroderinae; Heterodera.

I (bases 1 to 779)

S Wang,X., Allen,R., Gao,B., Goellner,M., Maier,T., Baum,T.,
Hussey,R. and Davis,E.

Submission: Wang, Allen, Gao, Goellner, Maier, Baum, Hussey, Davis

Lonpublished (2003)

Lonpublished (2003)

Contact: Tom Maier

Department of Plant Pathology, Baum Lab

Iowa State University

351 Bessey Hall, Ames, IA 50011, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cDNA Library, single pass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGTTGGGTCACCAGCAAATC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTTATCAGACCGTTTCCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAACGCGGGAAAAAGTGGAAGCGGCGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGTCGATGGTAGGAACGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         719 GIGGIGAACCAGGCCAGCCACGITICIGCGAAAACGCGGGAAAAAGIGGAAGCGGCGAIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCCGCCGTCGCAAATTGTCGCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              crearrecearreceaerereseceresecereseceresecereseaarrereseses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTCGATGGTAGAACGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCCGCAACGCGTCAGTGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGGGTCAGTGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Arcarraactarccecrecargaccaggarcccarrecreregaagcrecrecrearr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccagraacerraracgarercecaeaerarecceerercrrrarcaeacerrrrcocce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1. 779

/organism="Heterodera glycines"
/organism="Raxon:51029"
/db_xref="teaxon:51029"
/cell type="gland"
/dev_grage="mixed parasitic juvenile"
/colne lib="Gland Cell Amplified cDNA Library"
/note="Organ: gland cell; Vector: pSportII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 779;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 770.6; DB 7;
Pred. No. 7.6e-217;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amplified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: trmaier@iastate.edu
Heterodera glycines Gland (
                    CK394523
CK394523.1 GI:40389794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
23.4%;
Best Local Similarity 99.4%;
Matches 773; Conservative 0
mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tel: 515-294-8854
Fax: 515-294-9420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

ö

179 747 119 807

g

g

ઠે

59

g

ò

RESULT 3 CK118014 LOCUS DEFINITION

VERSION KEYWORDS SOURCE ORGANISM

ACCESSION

REFERENCE AUTHORS TITLE

JOURNAL

COMMENT

687

8

g

ઠે

```
1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BQ751655 19-JUL-2002 FST631218 DSCT Colletotrichum trifolii cDNA clone pDSCT6-59, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                     444
                                                                                                                                                  504
                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                       564
                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                          624
                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                               684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             924
                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Collectrichum trifolii
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes incertae sedis; Phyllachoraceae;
mitosporic Phyllachoraceae; Colletotrichum.
1 (bases 1 to 793)
Samac, D.A., Dickman, M., Town, C.D., Van Aken, S., Utterback, T.,
Cheung, F. and Fraser, C.M.
ESTS from mycelia of Colletotrichum trifolii race 1
Unpublished (2002)
                                                                                                                                                                                  301 ATADATATCTCACTCGCAATCAAATTCAGCGGATAGCGGAAAGGGGACTGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGGATCGTTCCCACTGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               985 ACCGCTTGCTGCAACTCTCTCAGGGCCAGGGGGTGAAGGGCAATCAGCTGTTGCCCGTCT
                                                                                                                                                                                                                                                                                     121 ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                             181 CCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCTGCTTGCCAACGATCAGATGGCGCTGGGGCGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481 TGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  925 ATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACTGGTGAAAAAAAAACCACCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661 cacrigargaaagaaaaccacccrigcccccaaracccaaaccgccrcrccccgcgcgr
                                                     385 GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                               GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                                                                                                     ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCT
                                                                                                                                                                                                                                                                                                                                                             CCCATGAAGACGGTACGCGACTGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601 ACCGCTTGCTGCAACTCTCTCAGGGCCAGGGGGTGAAGGGCCAATCAGCTGTTGCCCGTCT
  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
  Indels
  ٥;
  Mismatches
  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GI:21907060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Colletotrichum trifolii
  768; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BQ751655
BQ751655.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1105
                                                                                                                                                                                                                                                       505
                                                                                                                                                                                                                                                                                                                                                             565
                                                                                                                                                                                                                                                                                                                                                                                                                                                               525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               865
                                                                                                  Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 4
BQ751655
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                  ò
                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /Lissue_infingbroincome meristem"
/Lissue_infingbroincome week after bolting"
/Lab_hote="a.coli SCS-1/pSEll"
/Lab_hote="a.coli SCS-1/pSEll"
/Lab_hote="a.coli SCS-1/pSEll"
/Lab_hote="a.coli SCS-1/pSEll"
/Lab_hote="a.coli SCS-1/pSEll"
/Lab_hote="a.coli SCS-1/pSEll"
/Lab_hote="a.coli SCS-1/pSEll"
/Lab_hote="a.coli SCS-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.coli scs-1/pSEll"
/Lab_hote="a.co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       218n06.pl AtMl Arabidopsis thaliana cDNA clone MPMGp2011N06218
5-PRIME, mRNA sequence.
CK118014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
Arabidopsis thaliana
Bukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Bukaryota, Varidiplantae, Streptophyta; Embryophyta; Core endicots;
rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
I (bases I to 76)
Feilner, T., Immink, R.G.H., Cahill, D.J. and Kersten, B.
Generation of a cDNA expression library from Arabidopsis
inflorescence meristem
  989
                                                     180
                                                                                                  746
                                                                                                                                  ATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATG 806
                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                             864
                                                                                                                                                                                                                                  ATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGGCATCGTTCCCACTGCGATG
                                                                                                                                                                                                                                                                                                                                                          8
AAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCC
                                                                                                                                                                                                                                                                                                          CTGGTTGCCAACGATCAGATGGCGCTGGGCGCCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                     CTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 768; DB 7; Length 769; Pred. No. 4.5e-216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished (2003)
Contact: Birgit Kersten
Plant Protein Chip Group, Department Lehrach
Max-Planck-Institute for Molecular Genetics
Innestr. 73, D-14195 Berlin, Germany
Tel: +49(0)30/84131128
Email: Kersten@molgen.mpg.de
Insert Length: 769 Std Brror: 0.00
Plate: 218 row: N column: 6
Seq primer: p0E65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. .769
/organism="Arabidopsis thaliana"
/mol_type="mRNA"
/ecoType="Columbia"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |db_xref="GABI:956015"
|db_xref="taxon:3702"
|clone="MPMGp2011N06218"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nttps://gabi.rzpd.de"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CK118014.1 GI:47828330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23.3%; S
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
```

source

ORIGIN

FEATURES

```
/tissue type="mycelia"
/dev stage="Young, actively growing mycelia (3 days after inoculation) grown in liquid culture (cutin minimal medium containing 2%ducose)."

[lab_host="DHFalpha"
/clone_lib="Mostro"
/note="Vector: pBluescript SK+; Site_l: EcoRI; Site_2:
EcoRI; isolate: 2sp2; cDNA was prepared from polyA+enriche RNA The cDNA was ligated into Lambda gtll from Stratagene and packaged using Gigapack packaging extracts.
An aliquot of the amplified library was used to transduce
E. coli Y1090 and phage DNA was purified from a liquid
                                                                                                                                                                                                                                                                                                                                                                                                                                                   BQ751220
806 bp mRNA linear BST 18-JUL-2002
EST531783 DSCT Colletotrichum trifolii cDNA clone pDSCT3-64, mRNA
                                      099
                                                                                          602
                                                                                                   662
                                                                                                                                                                                                                     722
                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                   782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Colletotrichum trifolii
Colletotrichum trifolii
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes incertae sedis; Phyllachorales; Phyllachoraceae;
mitosporic Phyllachoraceae; Colletotrichum.
                                                                                CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                              GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                 CGTCTGCGTCTGGCTGGCTTAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                               GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                           55108,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         is available at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 806)
Samac, D.A., Dickman, M., Town, C.D., Van Aken, S., Utterback, T., Cheung, F. and Fraser, C.M.
ESTS from mycella of Colletotrichum trifolii race 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Paul,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (2002)
Other_ESTS: EST631782
Other_ESTS: EST631782
Ontact: Deborah A. Samac
Departativ of Minnesora
University of Minnesora
495 Borlaug Hall, 1991 Upper Buford Circle, St. Pau Tel: 612 625 1243
Fax: 651 649 5058
Email: debbys@puccini.crl.umn.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Colletotrichum trifolii"
/mol type="mRNA"
/strain="race 1"
/db xref="taxon:5466"
/clone="pDSCT3-64"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Seq primer: (gtA AtA CgA CtC ACt AtA ggg C)
Location/Qualifiers
                     GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BQ751220
BQ751220.1 GI:21906625
                                                                                                                                                                                                                                                                                                                                       786
                                                                                                                                                                                                                                                                                                                                                                    GAGG 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      seguence
                                                                                                                                                                                                                                                                                                                                       GAGG
                    183
                                                                                  543
                                                                                                                                                                                                            663
                                                                                                                                              603
                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                           723
                                                                                                                                                                                                                                                                                                                                       783
                                                                                                                                                                                                                                                                                                                                                                    779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
BQ751220
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                             g
                                                                                                    a
                                                                      ò
                                                                                                                                         ò
                                                                                                                                                                  qq
                                                                                                                                                                                               à
                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                  MN 55108, USA
                                                                                                                                                                                                                                                                                        /tissue_type="mycelia"
/dev stage="Young, actively growing mycelia (3 days after incollation) grown in liquid culture (cutin minimal medium containing 2*glucose)."
/dab_host="DH5alpha"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     123 GICTOTIAICAGACCGITICCCGCGIGGIGAACCAGGCCAGCCATITCIGGGAAAAGG 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               303 GOGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                         available at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACATCTTCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COCCADADADACTGGAAGCGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCGCGCAACGCGTCAGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
Other ESTB: EST63217

Contact: Deborah A. Samac
Department of Plant Pathology
University of Minnesota
495 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN
Tel: 612 625 1243
Fax: 651 649 5058
Email: debbys@puccini.crl.umn.edu
TIGR sequence name: MTSAFS9TV More information is availab
www.medicago.org
Seq primer: (qqx AtA CgA CtC Act AtA ggg C).
Location/Qualifiers
rce
1. 793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 23.1%; Score 762; DB 5; Length 793; Best Local Similarity 99.1%; Pred. No. 2.8e-214; Matches 777; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                              /organism="Colletotrichum trifolii"
/mol_type="mRNA"
/strain="race 1"
                                                                                                                                                                                                                                                               db_xref="taxon:5466"
clone="pDSCT6-59"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      recombinants."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            423
                                                                                                                                                                                               Bource
                                                                                                                                                                              FEATURES
     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
```

ò 유 ò g 8 6

ò 유 ò 셤

셤 ò

à 셤 8 g 4

```
Similarity
             CB863541.1
                                                                                                          Graner, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             321
                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local
 ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                    REFERENCE
AUTHORS
                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
lysate. The cDNA inserts were gel purified after EcoRI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DHSalpha which were plated onto medium with X-gal for selection of
                                                                                              7
                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                      302
                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                        422
                                                                                                                                                                                                                                                                                                                                                                                                                  482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                          122
                                                                                                                                                                     CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTGCGCAGAGTATGCCGGT 120
                                                                                                                                                                                                     182
                                                                                                                                                                                                                                            242
                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                          542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  777
                                                                                                                                     9
                                                                                                                   62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                CAACTGGCGGGGCAAACAGTCGTTGCTGATTGCCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                               GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                       GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                    CTCGCGCAACGCGTCAGTGGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCGGATAGCG
                                                                                                                                      GACACTTTCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                           CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                    CGGGAAAAAGTGGAGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                              GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                 CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTGTGGAAGCTGCCTGCACTAATGTTCCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                              Gaps
                                                                                              ŝ
                                                                          Length 806;
                                                                                              Indels
                                                                        Score 755.4; DB 5;
Pred. No. 2.5e-212;
0; Mismatches 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGGGCATCGTTCCCACTGCGATGCTGGTTG 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGG--CATCGTTCCACTGCGATGCTGGTTG
                                           recombinants.
                                                                        22.9%;
ilarity 97.4%;
Conservative (
                                                                                   Similarity
                                                                                             790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       783
                                                                                                                                                          63
                                                                                                                                                                               61
                                                                                                                                                                                                   123
                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                            183
                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                             303
                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                        363
                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                 423
                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                          483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
CB863541/c
LOCUS
DEFINITION
                                                                                    Best Loca
Matches
                                                    ORIGIN
                                                                                                                                   g
                                                                                                                                                                            g
                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       음
                                                                                                                                                         ò
                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                             윱
                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

CB863541 689 bp mRNA linear EST 22-APR-2003 HH04A08y HH Hordeum vulgare CDNA clone HH04A08 3-PRIME, mRNA sequence.

```
ö
                                         Spermatophyta; Tracheophyta; Embryophyta; Tracheophyta; Spermatophyta; Pooleae; Triticeae; Pooleae; Triticeae; Hordeum.
1 (bases 1 to 689)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTT 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rcerrecrearrescerreceacriceaercrescercececececececearrere 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGATGCCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAG 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=_Vector: pSPORT; Site 1: SalI (5-end of cDNA); Site 2: NotI (3-end of cDNA); Due to the cloning system used blue/white selection for recombinants is not 100 reliable. Average insert size is 1.3 kb."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCCCCCTGCTGAACCAGGCCACGTTTCTGCGAAAACGCGGGAAAAGTGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACAACTGGCGGGGCAAAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCCGCCGTCGCAAATTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAAGCGGCGTCGAAGCCTGTGAAAGCGGCGGTGCACAATCTTCTCGCGCAACGGGTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGCCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCGTGGTGGTGGTCGATGGTAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                Contact: Stein Nis

Molecular Markers Group, Department Genbank
Molecular Markers Group, Department Genbank
Institute of Plant Genetics and Crop Plant Research (IPK)
Corrensstr. 3, 06466, Gatersleben, Germany
Tel: 039482-5595
Fax: 039482-5595
Email: stein@ipk-gatersleben.de
Insert Length: 689 Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /tissue_type="coleoptile"
/dev_stage="coleoptile, 1 day old"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20.8%; Score 684.8; DB 6; 99.6%; Pred. No. 2.3e-191;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. 689
/organism="Hordeum vulgare"
/mol_type="mRNA"
/culfivar="Sloop"
/db_xref="GABI:55198"
/db_xref="taxon:4513"
/clone="HH04A08"
                                                                                                                                                                   Varshney, R.K., Zhang, H., Burton, R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches
                                                                                                                                                                                                         Barley ESTs from coleoptile tissue
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                       Hordeum vulgare
Hordeum vulgare
Eukaryota, Viridiplantae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    clone lib="HH"
GI:30058100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    686; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Seq primer: SP6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

g

ò

g

ઠ

윱

8

g

ઠે

윱

ò

```
GSS 06-NOV-2002
                                                                                                          212 GCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTGAT 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         630
        552 ACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTTATCAGACCGTTTCCCGCGTGGTG 593
                                                                                                                                 GCTGAATTACAFTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTGAT 473
                                                                                                                                                                                                   TCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCA 450
                                                                                                                                                                                                                                                                                                                                                    293
                                                                                                                                                                                                                                                                                                                                                                                                                      233
                                                                                                                                                                                                                                                                                                                                                                                                                                                        570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Viruses; environmental samples.

I (bases 1 to 710)

Breitbart, M., Salamon, P., Andresen, B., Mahaffy, J.M., Segall, A.M., Mead, D., Azam, F. and Rohwer, F.

Mead, D., Azam, F. and Rohwer, F.

Medondic analysis of uncultured marine viral communities

Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14250-14255 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AY080106 Aripps Pier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p3G6L, genomic survey
                                                            AACCAGGCCAGCCACGTTTCTGCGAAAACGCGGG-AAAAAGTGGAAGCGGCGATGGCGGA
                                                                                                                                                                                                                                                                                                                                                                                                    TGGCGTTGCCACCTCCAGTCTGGCCCTGCAC-GCGCCGTCGCAAATTGTCGCGGCGATTA
                                                                                                                                                                                                                                                                                                                                                   352 rcgaagccreraaagcggcgcrecacaarcrrcrcgcgcaacggcragrgggcrgarca
                                                                                                                                                                                                                                                                                                                                                                                  CGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    571 AAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         691 ATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAG 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52 ATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="uncultured marine virus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                San Digo State University
5500 Campanile Dr, San Diego, CA 92102,
Tel: 6195941336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fax: 619595676
Email: forest@sunstroke.sdsu.edu
Class: shotgun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AY080106
AY080106.1 GI:24745302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            uncultured marine virus uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Rohwer F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biology Dept.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12384570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                    511
                                          153
                                                                                                                                                                            272
                                                                                                                                                                                                             472
                                                                                                                                                                                                                                             331
                                                                                                                                                                                                                                                                                                                                                                                                                  292
                                                                                                                                            532
                                                                                                                                                                                                                                                                                                                   391
                                                                                                                                                                                                                                                                                                                                                                                  451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 8
AY080106
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                   8
                                                                 g
                                                                                                      ઠે
                                                                                                                                 g
                                                                                                                                                                 ò
                                                                                                                                                                                                      g
                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                    Ωp
                                                                                                                                                                                                                                                                                                      8 6
                                                                                                                                                                                                                                                                                                                                                                      <u>ک</u> ۾
                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                        AL038548
DKPZp566E0346_r1 566 (synonym: hfkd2) Homo sapiens cDNA clone
DKRZp56E0346_5', mRNA sequence.
                   560
                                                                                     209 ACTAATGITCCGGCGTTATTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATT 150
                                                                                                                                   TTCTCCCATGAAGACGGTACGCGACTGGCGTGGAGCATCTGGTCGCATTGGGTCACCAG 620
                                                                                                                                                                                                   ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKFZ); Email s.wiemann@dkfz- heidelberg.de;
sequenced by MediGenomix (Martinsried/Germany) within the cDNA
sequencing consortium of the German Genome Project. No 81 sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGITATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCCGCGTGGTG 152
                                                                                                                                                                          90
                                                                                                                                                                                                                                          30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo. 1 (bases 1 to 712) (box Ottenwaelder, B., Obermaier, B., Mewes, H. W., Gassenhuber, J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                        149 TTCTCCCATGAAGACGTACGCGACTGGGCGTGGAGACATCTGGTCGCATTGGGTCACCAG
                                                                                                                                                                                                                                 89 CAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCGTCTGGCTTGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This clone (DKFZp566E0346) is available at the RZPD in Berlin. Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059 Berlin- Charlottenburg, GERMANY; Email: clone@rzpd.de. Location/Qualifiers
ACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33 GGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAATGTGAAACCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organisms"Homo sapiens"
/mol_type="mRNA"
/mol_type="mRNA"
/do_aref="wxxon:9606"
/dlone="mKFzp566E0146"
/tissue_type="kidney"
/dev_stage="fetal"
/dab_host="x1.2blue"
/docare="x1.2blue"
/clone_lib="566 (synonym: hfkd2)"
/note="Vector: pAMP1; Site_1: NotI; Site_2: Sall"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 712;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 20.5%; Score 676.4; DB 1; Best Local Similarity 99.6%; Pred. No. 7.2e-189; Matches 699; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                      681 TGGCATAAATATCTCACTCGCAATCAAAT 709
                                                                                                                                                                                                                                                                                           TGGCATAAATATCTCACTCGCAATCAAAT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST (Ottenwaelder, et al.)
Unpublished (1999)
Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL038548.1 GI:5407738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wiemann, S.
EST (Ottenw
                                                                                                                                                                                                                                                                                                                                                                                                                                               AL038548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST.
                                   269
                                                                 501
                                                                                                                                                                                                                                                                                                        53
 441
                                                                                                                                     561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93
                                                                                                                                                                                                                                                                                                                                                        RESULT 7
AL038548/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
```

ORIGIN

쉱 ð

8.

```
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                          /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="DKFZp4341102"
/tissue_type="testis"
                                                                                                                                                       EST (Ansorge, Benes, et al.)
Unpublished (1999)
Contact: MIPS
                                        AL044483.1 GI:5432701
EST.
                                                                                                                                                                                                                                                                                         German Genome Project
                                                                   Homo sapiens (human)
                                                                                                                    (bases 1 to 660)
                                                                                                                                                                                                                                                                                                                                                                      1. .660
                                                                                Homo sapiens
                                                                                                                                              Wiemann, S.
                              AL044483
                                                                                                                                                                                               MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            445
                                                                                                                                                                                                                                                                                                                                                                      source
                          ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                             ORGANISM
    DEFINITION
                                                                                                                                                       TITLE
JOURNAL
COMMENT
                                                                                                                   REFERENCE
                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTCTCAGGGCCAGGGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAGAA 1059
                                                     /note="Marine viruses were isolated from 200 liters of surface seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by randomly shearing the total marine viral community DNA, end-repairing, ligating dsDNA linkers to the ends, and amplifying the fragments using Vent DNA polymerase. The resulting fragments were ligated into the pSMART vector and electroporated into MC12 cells (Lucigen; Middleton, WI)"
                                                                                                                                                                                                                                                                            459
                                                                                                                                                                                                                                                                                                                              519
                                                                                                                                                                                                                                                                                                                                                      127
                                                                                                                                                                                                                                                                                                                                                                                 579
                                                                                                                                                                                                                                                                                                                                                                                             TTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTA 187
                                                                                                                                                                                                                                                                                                                                                                                                                                  639
                                                                                                                                                                                                                                                                                                                                                                                                                                                          247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             999
/mol_type="genomic DNA"
/db_xref="taxon:186617"
/clone="s1051p13641"
/clone lih="Scripps Pier (La Jolla, CA) uncultured virus
                                                                                                                                                                                                                                                                                                    67
                                                                                                                                                                                                                                                                                                                                           CGCGACTGGGCGTGGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCAGATGGCGCTGGGCGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCCGCCGTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rcrcrcadeccadecereaacecaarcancrerreccerereacresreaaa-aa
                                                                                                                                                                                                                                                                         GTAAAGCGGCGGTGCACAATCTTCTCGCGCACACGCGTCAGTGGGCTGATCATTAACTATC
                                                                                                                                                                                                                                                                                                    Grecrecaecearcarcricrececaacecercaeresecrearcarrarrarrar
                                                                                                                                                                                                                                                                                                                            TTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                  1; Gaps
                                                                                                                                                                                                                        Length 710;
                                                                                                                                                                                                                                                 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAACCACCTGGCGCCCAATACGCAAACCGCCTCTCCC 1097
                                                                                                                                                                                                                        Score 676; DB 8; 1
Pred. No. 9.5e-189;
0; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20.5%;
98.9%;
                                                                                                                                                                                                                      Query Match 20.5
Best Local Similarity 98.9
Matches 690; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          548
                                                                                                                                                                                                                                                                                                                                                                                                       128
                                                                                                                                                                                                                                                                                                                                                                                                                                                          188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1060
                                                                                                                                                                                                                                                                           400
                                                                                                                                                                                                                                                                                                    œ
                                                                                                                                                                                                                                                                                                                                                                                                                                 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            809
                                                                                                                                                                                                                                                                                                                              460
                                                                                                                                                                                                                                                                                                                                                                               520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 9
AL044483/c
LOCUS
                                                                                                                                                                                              DRIGIN
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                              ઠે
```

ή: 144 541 601 204 264 481 324 421 384 361 444 504 241 360 GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGGGTCAGTGGGC 301 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. and Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 3' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKEZ); Email s.wiemann@dkfz-heidelberg.de;
sequenced by EMBL (European Molecular Biology Laboratories,
Heidelberg/Germany) within the cDNA sequencing consortium of the No rise concerned available.

This clone (DKFZp4341102) is available at the RZPD in Berlin.

Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059

Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de. 145 GCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAAACGCGGGAAAAAGTGGAAGGCGGCGA 540 TGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAACAACTGGCGGGGCAAACAACGGT TGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCCTGCACGCGCCCGTCGCAAATTGTCGCGG CGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTCGATGGTAGAACGAA 420 CGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAACGAA <u>AACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCC</u> TGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGT 480 recrearrescerreceacerceasterescerecesces and reces GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGCC Gaps /dev_stage="adult" /lab_host="DH10B" /clone_lib="434 (synonym: htes3)" /note="Vector: pSport1; Site_1: Not1; Site_2: Sal1" DKFZp434I102_s1 434 (synonym: htes3) Homo sapiens cDNA clone DKFZp434I102_3', mRNA sequence. Ansorge, W., Benes, V., Krieger, S., Mewes, H.W., Gassenhuber, J. 1; Length 660; Indels tch 19.6%; Score 647.4; DB 1; al Similarity 99.7%; Pred. No. 2.9e-180; 659; Conservative 0; Mismatches 1; g

564

505 ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTTTCT

ઠે

EST 04-SEP-2003

linear

mRNA

ď

AL044483

엄 ò 요 õ 셤 ò g ò g

```
CB863814 62-APR-2003
HH07B20y HH Hordeum vulgare cDNA clone HH07B20 3-PRIME, mRNA
sequence.
                                                                                                                                        329
          402
                                                                                                                                                      282
                                                                                                                                                                                                                                                                           449
                                                                                                                                                                                                                                                                                                                                             509
                                                                                                                                                                                                                                                                                                                                                                                162
                                                                                                                                                                                                                                                                                                                                                                                                                  569
                                                                                                                                                                                                                                                                                                                                                                                                                                                  102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hordeum vulgare
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Pooldeae; Triticeae; Hordeum.
1 (bases 1 to 624)
Varshney, R.K., Zhang, H., Burton, R., Stein, N., Langridge, P. and
                                                              GAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTG
                                                                                             270 ATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATT
                                                                                                                                                                                                                         GTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATC
                                                                                                                                                                                                                                                                                                                                      510 CCGGCGTTATTTCTTGATGTCTCAGACACCCCATCAACAGTATTATTTTCTCCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGGCGTTATTTCTTGATGTCTCTGACCAGGCATCAACAGGTATTATTTTCTCCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101 GAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAATCGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAAGACGCTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCG
                                                                                                                                                                                                   AAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAACGAAGCGGC
                                                                                                                                                                                                                                                                      GTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conteact: Stein Nils
Molecular Markers Group, Department Genbank
Institute of Plant Genetics and Crop Plant Research (IPK)
Corrensert: 3, 06466, Gatersleben, Germany
Tel: 039482-5552
Eax: 039482-5552
Email: stein@ipk-gatersleben.de
Insert Length: 624 Std Error: 0.00
Plate: 7 row: B column: 20
Seq primer: SPG: Forein/Analifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              630 CTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCG 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41 CTGTTAGCGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCG 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .624
/organism="Hordeum vulgare"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /mol_type="mRNA"
/cultivar="Sloop"
/db_xref="GAB1:555411"
/db_xref="GAB1:555411"
/clone="HH07B20"
/tissue_type="coleoptile"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Barley ESTs from coleoptile tissue
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CB863814
CB863814.1 GI:30058373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hordeum vulgare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             570 (
                                                                210
                                                                                                                                                                                                   330
                                                                                                                                                                                                                                                                                                    281
                                                                                                                                                                                                                                                                                                                                        450
                                                                                                                                                                                                                                                                                                                                                                                                                                           161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 11
CB863814/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                     ò
                                                       ò
                                                                                      ద
                                                                                                                             ò
                                                                                                                                                      중 음
                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                 & 8
                                                                                                                                                                                                                                                                                                                                                                                                                                Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                            ે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                 BJ063872 NIBB Mochii normalized Xenopus tailbud library Xenopus Lawis cDNA clone XL077k02 5', mRNA sequence.
                                                                                                                    685 ATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTG 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                            181
                                                           624
                                                                                    180 cccardaadacograceceacresecereseaceresearcresecearresearcaecaaa 121
                                                                                                                                                            62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90 GTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTATCAGACCGTTTCCCGCGTG 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           581 GraacGriaracGarGrecaGaGrarGecGGrecerriarcaGacGGrreceGGGre 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           150 GTGAACCAGGCCAGCCATTTCTGCGAAAACGCGGGAAAAAGTGGAAGCGGCGATGGCG 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mahbibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae, Xenopodinae, Xenopus, Xenopus.

1 (bases 1 to 641)

1 Lerasaka, C., Mochii, M., Ueno, N., Shin-i, T. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Expressed genes in X. laevis embryo
Unpublished (2001)
Contact: Tadasu Shin-i
Center For Genetic Resource Information
National Institute of Genetics
1111 Yata, Mishima, Shizuoka 411-8540, Japan
Tel: 81-559-81-6856
Fax: 81-559-81-6856
Exa: 81-559-81-6855
Email: tshini@genes.nig.ac.jp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   83
240 AIGTICCGGCGITATTICTIGAIGTCTCTGACCGAGACACCCAICAACAGTATTITTCT
                                                    CCCATGAAGACGGTACGCGACTGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                             CGCGGTATGGCATGATAGCGCCCCGGAAGAGAGTCAATTCAGGGTGGTGAATGTGAAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /tissue_type="whole embryo"
/dev_stage="stage 25"
/clone_lib="NIBB Mochii normalized Xenopus tailbud
library:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19.4%; Score 641; DB 4; Length 641;
100.0%; Pred. No. 2.3e-178;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1. .641
/organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="taxon:8355"
/clone="XL077k02"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             http://xenopus.nibb.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                  BJ063872
BJ063872.1 GI:17471074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
les 641; Conserv
                                                                                                                                                                                                                                                         745 Ç 745
                                                                                                                                                                                                                                                                                           н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                            RESULT 10
BJ063872/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
```

ORIGIN

ઠ 용 È 셤 à

ORIGIN

Q

ઠે g g ઠે g ઠે

8

ઠ g ઠે

```
1168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACT 1048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGTGAAAAGAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGGGGGTTGGC 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       497
                                                                  Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 3' sequence of the clone insert
Clone from S. Wiemann, Wolecular Genome Analysis, German Cancer
Research Center (DKF2); sequenced by Qiagen within the CDNA
sequencing consortium of the German Genome Project. rl sequence
                                                                                                                                                                                          14059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            316 CTTGCTGCAACTCTCTCAGGGCCAGGGGGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    316 GGTGAAAAGAAAAACCCCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGGGGGTTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          256 CGATTCATTAATGCAGCTGGCACGACAGGTTTCCCCGACTGGAAAGCGGGCAGTGAGCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GICCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             496 CGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              436 CCCGCCGTTAACCACCATCAAACAGGATTTTTCGCCTGCTGGGGCAAACCAGCGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGGCGCCATTACCGAGTCCGGGCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                             /tissue_type="testis"
/dev_stage="adult"
/lab_host="bH108"
/clone lils="44 (9ynonym: htes3)"
/note="Vector: pSport1; Site_1: Not1; Site_2: Sall"
                                                                                                                                                                                          ý,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5,
                                                                                                                                                      also available.
This clone is available at the RZPD in Berlin.
Please context the RZPD: Ressourcententrum, Heubnerweg
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de.
Location/Qualifiers
1. 794
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                    18.5%; Score 612; DB 1; Length 794; 99.7%; Pred. No. 1e-169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         169 ACGCAATTAATGTGAGTTAGCTCACTTAGGCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="DKFZp434B075"
   al.)
     et
 EST (Duesterhoeft,
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 99.7
Matches 634; Conservative
                                       Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         556 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               929
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 04-SEP-2003
                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                             560
                                                                                                                                                                                                                                                                                               122
                                                                                                                                                                                                                                                                                                                                 500
                                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                                     440
                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         602
                                                                                                                                                                                                                            62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates; Catarrhini, Hominidae, Homo. 1 (bases 1 to 794)
Duesterhoeft, A., Lauber, J., Mewes, H.W., Gassenhuber, J. and
/dev_stage="coleoptile, 1 day old"
/lab.host="DH10B"
/clone_lib="HH"
/note="Vector: pSPORT; Site_1: SalI (5-end of cDNA);
Site_2: NotI (3-end of cDNA); Due to the cloning system used blue-white selection for recombinants is not 100 % reliable. Average insert size is 1:3 kb."
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                   CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGTTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                            GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                             GACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                               CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                               559 CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                     CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              319 GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DKFZp4348075 s1 434 (synonym: htes3) Homo sapiens cDNA clone DKFZp4348075 3', mRNA sequence.
                                                                                                                                                                                          ;
0
                                                                                                                                                      18.7%; Score 615.8; DB 6; Length 624; ilarity 99.7%; Pred. No. 7e-171; Conservative 0; Mismatches 2; Indels 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCGCATTGGGTCACCAGC 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AL045353.1 GI:5433506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                    Query Match
Best Local Similarity
Matches 617; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wiemann, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AL045353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           79
                                                                                                                                                                                                                            ٣
                                                                                                                                                                                                                                                             619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             603
                                                                                                                                                                                                                                                                                               63
                                                                                                                                                                                                                                                                                                                                                                   123
                                                                                                                                                                                                                                                                                                                                                                                                     499
                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AL045353/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
```

g

ઠે 유 ઠે g ò g

ઠે

ò 요

요

```
2414 AAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAGTTGGCGAAAGATC 2473
                                                                                                                                                                                                         2594 AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 2628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
17.9%; Score 589.8; DB 8;
Best Local Similarity 99.7%; Pred. No. 3.7e-163;
Matches 591; Conservative 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Rohwer F
Biology Dept.
San Diego State University
5500 Campanile Dr. San Diego, CA 92102, US
Tel: 619594136
Fax: 61955576
Email: forest@sunstroke.sdsu.edu
Class: shotgun.
                                                                                                                                                                                                                                 AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                             uncultured marine virus uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                           AY080094.1 GI:24745276
                                                                                                                                                                                                                                                                                                                                                                                              sednence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12384570
                                                                    2474
                                                                                                                                                                                                                                              152
                                                                                                                                                                                                                                                                                                RESULT 14
AY080094/c
                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                   ò
                                                                                                g
                                                                                                                                    ö
                                                                                                                                                                g
                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            임
                      PRIO124a_CO1 - PRIO124a_B21 (752) Mixed stage fosmid library of P. pacificus var. California Pristionchus pacificus genomic, genomic CL655575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1996 TICACCTGGCCGCTGATTGCTGCTGAC-GGGGGTTATGCGTTCAAGTATGAAAACGGCAA 2054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2175 TGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGGTGGGCATGGTCCAACAT 2234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2235 CGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTCAAGGGTCAACCATC 2294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2395 CAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGTCCGAACAAAAAGAGCT 2354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1355 GGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGAAGGTCTGGAAGCGGTTAA-TA 2413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        512 CGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTCAAGGGTCAACCATC 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  452 CAAACCGTTCGTTGGCGTGAGCGCAGGTATTAACGCCGCCAGTCCGAACAAAGAGCT 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Strintagan, J., Otto, G.W., Kahlow, U., Geisler, R. and Sommer, R.J. AppabB: an AcedB database for the nematode satellite organism Pristionchus pacificus
Nucleic Acids Res. 32 (1), D421-D422 (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone_lib="Mixed stage fosmid library of P. pacificus var. California"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTACTCCCATCGCAGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2055 GTACGACATTAAAGACGTGGCGTGGATAACGCTGGCGCGAAAGCGGGTCTGACCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTACGACATTAAAGACGTGGCGTGGATAACGCTGGCGCGAAAGCGGGTCTGACCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2115 GGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTACTCCCATCGCAGAAGC
                                                                                                                                                                                                                                                                                                                                         Evolutionary Biology
Max-Planck Institute for Developmental Biology
Spemannstr. 37-39. Tuebingen D-72076, Germany
Tel: 00497071601371
Fax: 00497071601498
Email: ralf: Sommer@tuebingen.mpg.de
This library was generated at Caltech, Pasadena, USA and end
Sequenced at Vancouver, Canada.
Class: fosmid ends
                                                                                                                                                                                                   Eukaryota, Metazoa, Nematoda, Chromadorea, Diplogasterida,
Neodiplogasteridae, Pristionchus.
1 (bases 1 to 752)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18.3%; Score 603; DB 9; Length 752; larity 98.9%; Pred. No. 4.7e-167; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="Vector: pEpifos-5 Fosmid vector"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1. .752
Organism="Pristionchus pacificus"
/mol_type="genomic DNA"
/strain="California"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db xref="taxon:54126"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                              CL655575.1 GI:50134897
                                                                                                                                                                Pristionchus pacificus
Pristionchus pacificus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        628;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       632
                                       LOCUS
DEFINITION
                                                                                                          ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
 RESULT 13
CL655575/c
                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
2534 AGAIGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCCGCCAGCGGTCGTC 2593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GSS 06-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
212 AGATGTCCGCTTTCTGGTATGCCGTACTGCGGTGATCAACGCCGCCAGCGGTCGTC 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. 608
Corganism="uncultured marine virus"
/mol_type="genomic DNA"
/db_tref="taxon:186617"
/clone="81051p3D41"
/clone_lib="Scripps Pier (La Jolla, CA) uncultured virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Thote-Marine viruses were isolated from 200 liters of surface seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by randomly shearing the total marine viral community DNA, end-repgairing, ligating dsDNA linkers to the ends, and amplifying the fragments using Vent DNA polymerase. The resulting fragments were ligated into the pSWART vector and electroporated into MC12 cells (Lucigen; Middleton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Viruses; environmental samples.

1 (bases 1 to 608)
Breitbart,M., Salamon,P., Andresen,B., Mahaffy,J.M., Segall,A.M., Mead,D., Azam,F. and Rohwer,F.
Genomic analysis of uncultured marine viral communities
Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14250-14255 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AY080094
AY080094 Scripps Fier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p3D4L, genomic survey
                                                                                CACGTATTGCCGCCACCATGGAAAACGCCCAGAAAAGGTGAAATCATGCCGAACATCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    287 CAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCGGATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 608;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
```

g

ઠે

g

ઠે g ે

ઠે

g

요 ò 셤 ઠે 임

8

g

ò g

ò

tissue_type="brain"

```
Query Match
Best Local S
Matches 587
                                                                                                                                                                                                                                  529
                                                                                                                                                                                                                                                                                         469 (
                                                                                                                                                                                                                                                                                                                                                                       757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             766
                                                                                                                                                  517
                                                                                                                                                                                                         577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              49
                                                                                                                                                                                                                                                             637
                                                                                                                                                                                                                                                                                                                    697
                                                                                                                                                                                                                                                                                                                                             409
                                                                   ORIGIN
                                                                                                                                                                         g
                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   589 bp mRNA linear EST 04-SEP-2003
DKFZp564C157_r1 564 (synonym: hfbr2) Homo sapiens cDNA clone
AL037742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ltd.,
of the
 406
                            489
                                                      466
                                                                               429
                                                                                                           526
                                                                                                                                      369
                                                                                                                                                               586
                                                                                                                                                                                          309
                                                                                                                                                                                                                      646
                                                                                                                                                                                                                                               249
                                                                                                                                                                                                                                                                          706
                                                                                                                                                                                                                                                                                                       189
                                                                                                                                                                                                                                                                                                                                 766
                                                                                                                                                                                                                                                                                                                                                          129
                                                                                                                                                                                                                                                                                                                                                                                     CATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGAT 826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 589)
Bloecker, H., Boecher, M., Brandt, P., Mewes, H.W., Gassenhuber, J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany This is the 5' sequence of the clone insert Clone from S. Wiemann, Molecular Genome Analysis, German Cancer Research Center (DKFZ); Email s.wiemann@dkfz- heidelberg.de; sequenced by GBF (National Research Centre for Biotechnology Ltd Braunschweig/Germany) within the cDNA sequencing consortium of the German Genome Project.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No sl sequence available.
This clone (DKRZp564CL57) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERRAMNY; Email: clone@rzpd.de.
Location/Qualifiers
TGACCAGGATGCCATTGCTGTGGAAGCTGCCTGCACTAATGTTCCAGCGTTATTTCTTGA
                                                                                                                                                                              AAGTICTGTCTCGGCGCGTCTGCGTCTGGCTGGCTGGCTAAAATATCTCACTCGCAATCA
                                                                    GGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTGGA
                                                                                                                                                               TGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACT
                                                                                                                                                                                                                    GGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGGCTGTTAGCGGGCCCATT
                                                                                                                                                                                                                                    GGGCGTGGAGCATCTGGTTGGGTCACCACCAAATCGCGTGTTAGCGGCCCCATT
                                                                                                                                                                                                                                                                          AAGTICTIGECGCGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCA
                                                                                                                                                                                                                                                                                                                               AATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAAC
                                                                                                                                                                                                                                                                                                                                               GGCGGTGCACATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGA
                                                                                                           TGACCAGGATGCCATTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                            879
                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="DKFZp564C157"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST (Bloecker, et al.)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL037742.1 GI:5407088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wiemann, S.
EST (Bloec)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST.
                         548
                                                                              488
                                                                                                                                                                                                                                                                                                    248
                                                                                                                                                              527
                                                                                                                                                                                                                   587
                                                                                                                                                                                                                                              308
                                                                                                                                                                                                                                                                         647
                                                                                                                                                                                                                                                                                                                               707
                                                                                                                                                                                                                                                                                                                                                          188
                                                                                                                                                                                                                                                                                                                                                                                     767
                                                                                                                                                                                                                                                                                                                                                                                                               128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    68
                                                    407
                                                                                                         467
                                                                                                                                   428
                                                                                                                                                                                         368
                                                                                                                                                                                                                                                                                                                                                                                                                                          827
347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 15
AL037742/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
```

```
1056
                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         170
                                                                                                                                                                        576
                                                                                                                                                                                                          530
                                                                                                                                                                                                                                            989
                                                                                                                                                                                                                                                                                                                                                                                                                                                    816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             169 TAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCACGTGGACCGCTTGCTGC 110
                                                                                                                                                                                                                                                                            470
                                                                                                                                                                                                                                                                                                              969
                                                                                                                                                                                                                                                                                                                                              410
                                                                                                                                                                                                                                                                                                                                                                                  756
                                                                                                                                                                                                                                                                                                                                                                                                                  350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 50
                                                                                                                                                                                                                                        349 TTCAACAANCCCATGCAAATGCTGAATGGGGCATCGTTCCCACCACGGATGCTGGTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTCGCAATCAAATTCAGCGGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      817 ACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              109 AACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAA
                                                                                                                                                                      TATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACG
                                                                                                                                                                                                                                                                                                              CTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCCACTGCGATGCTGGTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGC
                                                                                                                                       Gaps
/dev_stagé="fetal"
/lab_host="X1-2blue"
/clone_lib="564 (synonym: hfbr2)"
/note="vector: pAMP1; Site_1: Not1; Site_2: Sal1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAAAACCACCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGTT 1105
                                                                                                                                      ö
                                                                                                     Length 589;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGGGGGTT
                                                                                                                                       Indels
                                                                                                    Score 586.4; DB 1;
Pred. No. 3.7e-162;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Search completed: August 3, 2005, 02:02:46
Job time : 6748.2 secs
                                                                                                     17.8%;
99.7%;
                                                                                                                                       Conservative
                                                                                                                      Similarity
                                                                                                                                    587;
```



Sequence 30, Appl Sequence 25, Appl Sequence 20, Appl Sequence 61, Appl Sequence 61, Appl Sequence 71, Appl Sequence 15, Appl Sequence 19, Appl Sequence 194, App Sequence 194, App Sequence 194, App Sequence 194, App Sequence 194, App Sequence 194, App Sequence 194, App Sequence 194, App Sequence 194, App Sequence 194, App

Sequence Sequence Sequence Sequence

Н

Perfect score:

Sequence:

OM nucleic

Run on:

Scoring table:

Searched:

Minimum DB Maximum DB

Database

```
DB 10; Length 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Partial sequence of pMal-ml and zinc finger OTHER INFORMATION: protein ZFPml
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         to modulate
               US-10-343-859-9

US-10-263-153-40

US-10-263-153-35

US-10-263-153-25

US-10-263-153-25

US-10-263-153-61

US-10-263-153-61

US-10-263-153-61

US-10-263-153-15

US-10-263-153-19

US-10-263-153-19

US-10-263-153-19

US-10-801-994-194

US-10-801-994-194

US-10-801-994-194

US-10-241-59-137

US-10-495-491-1

US-10-495-491-1

US-10-495-491-1

US-10-495-491-1

US-10-495-491-1

US-10-995-995-137

US-10-995-995-137

US-10-995-995-137

US-10-995-995-137

US-10-995-995-137

US-10-995-995-137

US-10-995-995-137

US-10-995-995-137

US-10-995-995-137

US-10-995-995-137

US-10-671-995A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 14, Application US/09765555
Publication No. US2003003735541
GENERAL INFORMATION:
APPLICANT: The Scripps Research Institute
TITLE OF INVENTION: Methods and compositions to
TITLE OF INVENTION: expression in plants
FILE REFERENCE: 27801-20014.00
CURRENT APPLICATION NUMBER: US/09/765,555
CURRENT FILING DATE: 2002-05-24
FRIOR APPLICATION NUMBER: US 09/620,897
FRIOR APPLICATION NUMBER: US 60/177,468
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
FRIOR FILING DATE: 2000-01-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-270-176-2
US-10-270-176-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match 100.0%; Score 3300; Best Local Similarity 100.0%; Pred. No. 0; Matches 3300; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA ORGANISM: Artificial Sequence
                                     US-09-765-555-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-765-555-14
1417.6
1238.4
1238.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1237.2
1237.2
1237.2
1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1462.4
1462.4
                                                                                                                                                                                                                                                                                                                                                                 2605.4
1609.4
                                                                                                                                                                                                                                                                                                                                                                                                                      1462.4
1462.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1238.4
   Sequence 18, Appl
Sequence 17, Appl
Sequence 16, Appl
Sequence 1, Appli
Sequence 5, Appli
                                                                                                                               2, 2005, 10:29:49; Search time 1309.2 Seconds (without alignments) 16314.373 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 14,
                                                                                                                                                                                                                                                 1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cgn2_6/ptodata1/pubpna/USO7_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO6_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO6_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO6_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO6_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO8_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO8_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO8_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO8_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO8_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO8_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO8_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO9_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO9_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO9_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO9_PUBCOMB.Beq:*

(ggn2_6/ptodata1/pubpna/USO0P_PUBCOMB.Beq:*

               GenCore version 5.1.6 (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-765-555-14
US-09-765-555-15
US-09-765-555-18
US-09-765-555-17
US-09-765-555-17
US-09-765-555-16
US-10-149-472-5
                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                            7287783 segs, 3236178273 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Published Applications NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Listing first 45 summaries
                                                                                              nucleic search, using sw model
                                                                                                                                                                                                                                                                                     IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               П
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0% Maximum Match 100%
                                                                                                                                                                                                                                                                                                                                                                                                                      seq length: 0
seq length: 200000000
                                                                                                                                                                                                              US-09-765-555B-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3300
3300
3300
3300
7373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                   August
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0
100.0
97.8
97.4
97.2
82.0
                                                                                                                                                                                                                                3300
```

Sequence 54, Appli Sequence 2, Appli Sequence 1, Appli Sequence 3, Appli Sequence 30, Appli Sequence 3, Appli Sequence 52, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 32, Appli Sequence 32, Appli Sequence 32, Appli Sequence 32, Appli Sequence 32, Appli Sequence 32, Appli Sequence 2, Appli Sequence 2, Appli

Sequence 7, App Sequence 137, R Sequence 54, App Sequence 2, App

ö

Gaps

ö

Score

Result No.

3300 3226.4 3215.2 3207.2 2705.8

		561 561 621 681		1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGGAA	1981 CTGCAAGAACCGTACTTCACCTGGTTTGCTGCTCACGGGGGTTATCCGTTCAAG 2040 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGTGGTGGATAACGCTTCAAG 2040 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGGGAAAGCG 2100 2041 TATGAAACGGCAAGTACGACATTAAAGACGTGGGCGGAAAGCG 2100 2101 GGTCTGACCTTCCTGGTTGACTGATTAAAACAACACAAGAAGACGAAAGCG 2100 2101 GGTCTGACCTTCCTGGTTGACTGATTAAAAACAAACACATGAATGCAGACCGATTAC 2160 2101 GGTCTGACCTTCCTGGTTGACTTAAAAACAAACAAACAATGAATG
8 8 8 8 8 8 8	8 8 8 8 8 8	3 2 3 5 3 5	6 6 6 6 6	8 8 8 8 8	8 6 6 6 6
	A. /-				1,
	241 AACAACTGGGGGCAAACAGTGGTTGCTGATTGGCGTTGCGGTTGGCGTCTGGCTGG	Trefededeadedestationed and trefededestationed 601 TGGTCGCATTGGGTCCCAGCAAATCGCCCTGTTAGCGGCCCCATTAGGTTCTGGTCTCGG 660 601 TGGTCGCATTGGGTCACCAGCAAATCGCCGTGTTAGCGGCCCCATTAAGTTCTGTCTCGG 660 601 TGGTCGCATTGGGTCGGCTGGCTGGCAATCGAATCGGCCCATTAAGTTCTGGTCTGG 660 661 CGGTCTGCGTCTGGCTGGCTGGCAAATCGCCAAATCGAAATCAGCCGATAG 720 661 CGCGTCTGCGTCTGGCTGGCTGGCAAAATAATATCTCACTCGCAAATCAAATTCAGCCGATAG 720 721 CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTTCAACAAACCATGCAAATCTGA 780 721 CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTTCAACAAACCATGCAAATCTGA 780 721 CGGAACGGGAACGCGACTGGCCATGTCCCATTTTCAACAAACCAAACCAAACTGAAATCTTGA 780	ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCACGATCAGATGCGGCTGGGCGCAAATGAGGGGCATCGTTCCCACGATGCTGGCGATGCCGCAATGCTGGCTG	901 ACGATACCGAAGACTCATGTTATTCCGCCGTTAACCACCATCAACAGGATTTTC 960 901 ACGATACCGAAGACTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC 960 901 ACGATACCGAAGACCAGCTGTTATATCCCGCCGTTAACCACCCATCAACAGGATTTTC 960 961 GCCTGCTGGGGGCAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGTGA 1020 961 GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAACAACAACCCTGGCGCCCAATA 1080 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAACAACCCCTGGCGCCCAATA 1080 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAA	

6 6 6 6 6

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GEGET CTTATCAGACGETTCCCGCGTGGTGGTGACCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGGGGAAAAAGTGGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTCACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Grcaatrcagggrgargrgaatgrgaaccagraacgrraracgargrcgcagagrargccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGTCTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 cceacaccarcearegrecaaaaccrrrcecegrarescarearacecccegaagaea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gарв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 10; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Partial sequence of pMal-m2 and zinc finger OTHER INFORMATION: protein ZFPm2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                     APPLICANT: The Scripps Research Institute
TITLE OF INVENTION: Methods and compositions to
TITLE OF INVENTION: expression in plants
FILE REFERENCE: 27801-20014.40
CURRENT APPLICATION NUMBER: US/09/765,555
CURRENT FILING DATE: 2002-05-24
PRIOR APPLICATION NUMBER: US 99/620,897
PRIOR FILING DATE: 2000-01-21
PRIOR FILING DATE: 2000-01-21
PRIOR FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 75
SOFTWARE: FASESED FOR Windows Version 4.0
SEQ ID NO 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 3300;
llarity 100.0%; Pred. No. 0;
Conservative 0; Mismatches
                                                  US-09-765-555-15
, Sequence 15, Application US/09765555
; Publication No. US20030037355A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 3300; Conserv
                                                                                                                                                                                                                                                                                                                                                           LENGTH: 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; OTHER INFORM
US-09-765-555-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ବ୍ର 🎖
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3180
                                                                                                                                         2340
                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGGTTCCGGACTACGCT 3300
                                                                                                         2340
                                                                                                                                                                                                                2400
                                                                                                                                                                                                                                                   2460
                                                                                                                                                                                                                                                                                    2460
                                                                                                                                                                                                                                                                                                                                                           2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCCACCAGCGTACCCAC 2820
   2220
                                                                                                      GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                      GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                              TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCAGGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGATCCTCTTCTCTCTCTGTGCCCAGGCGGCCCTCGAGCCCGGGGAAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACGGGGGAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACCGGGGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC
TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                     GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                            TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                2521 ccGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCGTACCCACACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGATCCTCTTCCTCTGTGGCCCAGGCGGCCCTCGAGCCCCGGGGAGAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGGCCGGCCACCTGGCCAGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                   GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTC
                                                                                                      2281
                                                                                                                                         2281
                                                                                                                                                                          2341
                                                                                                                                                                                                              2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3241
 2161
                                                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                                                                   2401
                                                                                                                                                                                                                                                                                                                                                         2461
                                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3181
                                   2221
                                                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3061
```

a

요

요 장

ઠે

a

ద

ઠ

ઠ

g

8

8

ઠે

8 8 8 8

ò

셤

8 8 8

ઠે

දු පු

중 음

1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGGCTTTGGTGGCTAC 1 1741 GCTCAATCTGGCTGAAATCACCCGGACAAAGGTTCCAGGACAAGCTGTAT 1	1/41 GCTCAALCTGGCCCTGTTGGCTGAAATCAC 1801 CCGTTTACCTGGGATGCCGTACGTTACAA 1801 CCGTTTACCTGGGATGCCGTACGTTACAA	1861 GAAGCGTTATGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 19 	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGGGAAAGGTAAGAGGGCGCTGATGTTCAAC 1980	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 [2101 G 2101 G	2161 TCCAFCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220	221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 [2281 AAGGICAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340 [2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2401 GAAGGGTTAATAAAGACAAACGGTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 [2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 	2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTAGCGTGCGT	2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGGCCACACTAATTCGAGCTCG 2640	2641 AACAACAACAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700 	2701 GGATCCTTTCTTCTGTGGCCCAGGCGCCCTCGAGCCCGGGAAAAGCCCTATGCTTGT 2760	2761 CCGGAATGTGGTAAGTCCTTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCAC 2820 [
A & 1	8 & 8	O P P	P &	<u>ያ</u> 8 ላ	AG GG	δ O	දි අ	<i>8</i> &	& A	& A	& 8	S S	S d	S A	کہ م	oy Db	oy Pb
																	
	CGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG GAACGGGAAGGCGACTGGAGTGCCATCCGGTTTTCAACAAACA	ATGAGGGCATCCTACTGCGATGTGCTACCAACGATCAG ATGAGGGCATCTCCCACTGCGATGTGCTACGAACGATCAG ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGCTGATTGCCAACGAATGAGGGCAATGCTGAATGCTAATGCTGA	TAGTGGGATACG 90 IAGTGGGATACG 90	CCAACAGGATTTTC CAAACAGGATTTTC	961 GCCTGCTGGGGAAACCAGGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 	1021 AGGGCAATCAGCTGTTGCCGGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA 1080 		TCATTAG TCATTAG	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260 	CACTGC/	GCGCCGACATCATAACGGTT	GTGTGGA 14 GTGTGGA 14	1441 ATTGTGAGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 	AATCTGG 1	GAAAGAT 162 GAAAGAT 162	CGGATAAACTGGAAGAAAATTCCCACAGGTT 168	91 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACCGGCTTTGGTGGCTAC 174
g &	8 & 8	8 6	දි දි	රු පු	8 8	දු දු	8 8	\$ B	\$ B	දු දු	8 6	දු දු	දු දු	중 원	중 음	S 8	8

g

ે

음 ઠે g ઠે a ઠે

g ઠે g 셤

ઠે

ઠે

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCAAACCGCCTCTCCCCGCGCGTTGGCTTCATTAATGCAGCTGGCACGACAGGTTT 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                  999
                                                                                                                                                                                                                                                                                                                                                                                                             999
                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                300
                                                                                       300
                                                                                                                                                                       420
                                                                                                                                                                                                420
                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                           CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                               AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                             TCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                  TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACAGGTTT
                                                                                         AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                   ACGCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                          TTCTCGCGCGAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661 CGCGTCTGCGTCTGGCTGGCTTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u> ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC</u>
                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                241
                                                                                                                                             301
                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
            181
                                      181
                                                                                                                                                                       361
                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                    501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961
                                                                                                                    301
                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                              8
B
                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                   92
                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                               g
                                                           ò
                                                                                      셤
                                                                                                           ò
                                                                                                                                     엄
                                                                                                                                                                   ò
                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                 3120
                                                                                                                                              3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Grcaarrcagggrgaargrgaaaccagraacgrraracgargrcgcagagrargccg 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                     3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGCGTTCCGGACTACGCT
ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                  AAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACCGGGGAGAAG
                                                                                                                                             CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC
                                                                                                                                                            CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCAC
                                                                                                                                                                                                CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC
                                                                                                                                                                                                               CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 10; Length 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: Parial sequence of pMal-Ap3 and zinc finger; OTHER INFORMATION: protein ZFPAp3
US-09-765-555-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    46; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 18, Application US/09765555

Publication No. US20030037355A1

GENERAL INFORMATION:
    TTILE OF INVENTION: Methods and compositions to TITLE OF INVENTION: Methods and compositions to FILE REFERENCE: 27801-20014.40

CURRENT APPLICATION NUMBER: US/09/765,555

CURRENT FILING DATE: 2002-05-24

PRIOR APPLICATION NUMBER: US 09/620,897

PRIOR APPLICATION NUMBER: US 09/620,897

PRIOR APPLICATION NUMBER: US 09/620,897

PRIOR APPLICATION NUMBER: US 09/620,897

PRIOR APPLICATION NUMBER: US 09/620,897

PRIOR APPLICATION NUMBER: US 09/620,897

SEQUENCE: PRIOR FILING DATE: 2000-01-21

NUMBER OF SEQ ID NOS: 75

SEQ ID NO 18

LENGTH: 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 97.8%; Score 3226.4; Best Local Similarity 98.6%; Pred. No. 0; Matches 3254; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 3
US-09-765-555-18
                                                                                       2941
                                                                                                                  2941
                                                                                                                                                                                                                                                                                                                                3181
            2821
                                                                2881
                                                                                                                                             3001
                                                                                                                                                                       3001
                                                                                                                                                                                                 3061
                                                                                                                                                                                                                                                    3121
                                                                                                                                                                                                                                                                             3121
                                                                                                                                                                                                                                                                                                       3181
                                                                                                                                                                                                                                                                                                                                                           3241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                      2881
                                                                                                                                                                                                                          3061
```

ઠે a ठे 셤 ò

qq

OY 2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2401	2461	QY 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTACGCGGGGACGTGCGGTGATCAACGGC 2580	Oy 2581 GCCAGCGGTCGTCAGACTGCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	QY 2641 AACAACAACAATAACAATAACAACACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700	Oy 2701 GGATCCTCTCTCTGTGGCCCAGGCGCCCTCGAGCGAGAGAAAGCCCTATGCTTGT 2760 Db 2701 GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAAAGCCCTATGCTTGT 2760	Qy 2761 CCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCAC 2820 Db 2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCTTGGTGCGCCACCAGCGTACCCAC 2820	Qy 2821 ACGGTGAAAACCGTATAAATGCCCACAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC 2880	Qy 2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940	Qy 2941 AAGTCTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACCAGGGAGAAG 3000 2941 AAGTCTTTCAGCCAGCAACCTGGTGCGCCACCAACGTACTCACAGGGAGAAG 3000	9y 3001 CCCTATGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC 3060	Qy 3061 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120	9y 3121 CAGGCGGCCACCTGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180	Oy 3181 CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGGCACCGACGTACTCAC 3240	Oy 3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGACGTTCCGGACTACGCT 3300	RESULT 4 US-09-765-555-17 Sequence 17, Application US/09765555 Publication No. US20030037355A1 GENERAL INPORMATION: APPLICANT: The Scripps Research Institute TITLE OF INVENTION: Methods and compositions to modulate
1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320 1261 TCAGGCAGCCATCGGAAGCTGTGGTTATTGGTTGTTTGTT	ACGGTT 138	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 	1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 	1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560 	AAAGAT 1 AAAGAT 1	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCCGTGACATTATCTTCTGGGCACCGCTTTGGTGGCTAC 1740	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACTTGGGAA 1920 	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040 	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACACGGATTAC 2160 	2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAAGCGGATGACCATCAACGGCCCGTGG 2220 	221 GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 [

us-09-765-555b-14.rnpb

```
1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1440
                                                                                                                                                            1020
                                                                                                                                                                                 1020
                                                                                                                                                                                                        1080
                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                            1260
                                                                                                                                                                                                                                                                                                                                                                 1260
                                                                                                                                                                                                                                                                                                                                                                                       1320
                                                                                                                                                                                                                                                                                                                                                                                                             1320
                                                                                                                                                                                                                                                                                                                                                                                                                                    1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                          1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1860
                                                                                                                                                                                                                                                                                                                      1200
                                                                   900
                                                                                                                                      960
    780
                                               840
                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCTGCTGGGGGCAAACCAGCGTGGACGCTTGCTGCAACTCTCTCACGGGCCAGGCGGTGA
                                                                                                                                                                                                                   AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                        GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                  GGGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
    CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                     TGCGCGCCATTACCGAGTCCGGGCTGCGCTTGGTGCTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                            ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAACAGGATTTTC
                                                                                                                                                                                                                                                    CGCAAACCGCCTCTCCCCGCGCGTTGCCATTCATTAATGCAGCTGGCACGACAGGTTTT
                                                                                                                                                                                                                                                                                                                       TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                      TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                        AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                        cecaaacceccrereceeeerreecearrearraarecaecreecaeeaerrr
                                                                                                                                                                                                                                                                                                 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCEGNATIVANGICACCETIGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGGCAACTGGCGCATGGCCCTGACATTATCTTGGGCACACACGCCTTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1681
                                                                     841
                                                                                                                                     901
                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                       1261
                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                                                                                                                    1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                          1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1741
    721
                                               781
                                                                                          841
                                                                                                                901
                                                                                                                                                            961
                                                                                                                                                                                 961
                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                            1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801
                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 6
                                                                                                                                요
                                                                                                                                                                              d
                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 8
                         8 6
                                                            중. 염
                                                                                                               ò
                                                                                                                                                          Š
                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                      GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                  CGCGGGBAAAAGTGGBAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCGCCGTCGCAAATTGTCGCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGAACGCGAAGCCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                          CGACACCATGGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                          GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                        CGCGGGBAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Acececcarcacaarrercececcarraarcreececcarcaacreecaece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                               CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                  Length 3300;
                                                                                                                                                                                                                                        ö
                                                                                                                                                                       zinc finger
                                                                                                                                                                                                                                       53; Indels
                                                                                                                                                                                                                  DB 10;
                                                                                                                                                                      and
                                                                                                                                 TYPE: DNA
ORGANISM: Artificial Sequence
PEATURE:
OTHER INFORMATION: Partial sequence of pMal-m4
OTHER INFORMATION: protein ZFPm4
                                                                                                                                                                                                                 97.4%; Score 3215.2; 98.4%; Pred. No. 0;
                                                                                                                                                                                                                                       0; Mismatches
FILE OF INVENTION: expression in plants
FILE REFERENCE: 27801.20014.40

CURRENT APPLICATION NUMBER: US/09/765,555

CURRENT FILING DATE: 2002-05-24

PRIOR APPLICATION NUMBER: US 09/620,897

PRIOR APPLICATION NUMBER: US 09/620,897

PRIOR APPLICATION NUMBER: US 60/177,468

PRIOR PILING DATE: 2000-01-21

NUMBER OF SEQ ID NOS: 75

SEQ ID NO 17

SEQ ID NO 17
                                                                                                                                                                                                                              Best Local Similarity 98.4 Matches 3247; Conservative
                                                                                                                                                                                                                           Similarity
                                                                                                                                                          ; FEATURE:
; OTHER INFORMA;
; OTHER INFORMA
US-09-765-555-17
                                                                                                                          LENGTH: 3300
                                                                                                                                                                                                                                                             -
                                                                                                                                                                                                                                                                                    -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 6 8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                              요 요
                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                   8 8
                                                                                                                                                                                                                                                                                                                                                                                                                 8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ठ
                                                                                                                                                                                                                                                             ઠે
```

QY 2941 AAGTCTTTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACCGGGGAGAAG 3000 Db 2941 AAGTCTTTCAGTGATTGTCGAGGCACCAACGTACTCACACGGGGAGAAG 3000 QY 3001 CCCTATGCTGATTGTCGGAATGTCGTTACTCACGCGAGGATAACCTGGGGGAGAAG 3000 QY 3061 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCTCTCAGAGGTCTCACGGGGCACACGTGGCGCCAC 3060 QY 3061 CCCTATGCTTGTCCGGAATGTGGTAAAAGTCCTTCTCTCAGAGGTCTCACTGGTGGCCAC 3120 Db 3061 CAGCGTACCCACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120 Db 3121 CAGGGTCCACCTGGCCAGCTATAAATGCCCAGAGAGCCATACAAATGT 3180 Db 3121 CAGGGCACCACCTGGCCAGCCATCAAATGCCCAGAGAACCATACAAATGT 3180 QY 3181 CCAGGAATACTGGCCACCATCAACTGGCGAGAAGCCATACAAATGT 3180 QY 3181 CCAGAATGTGGCCACCTTCAACTGGCGAGAAGCCATACAAATGT 3180 Db 3121 ACCGGTAAAAACTTTCTCTCGGTCTGACAATTTGGCGGAGAAGCCATACAAATGT 3180 QY 3241 ACCGGTAAAAAAACTTAGTGGCCAGCCATTTGGCCGTACCCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACGTACTCCACCAACACACTCCACCAACACACTCCACCAACACACTCCACCA	RESULT 5 US-09-765-555-16 Sequence 16, Application US/09765555 Sequence 16, Application US/09765555 Sequence 16, Application No. US2003003735A1 GENERAL INFORMATION: APPLICANT: THE Scripps Research Institute TITLE OF INVENTION: Methods and compositions to modulate TITLE OF INVENTION: Wethods and compositions to modulate TITLE OF INVENTION: WADERS US/09/765,555 CURRENT APPLICATION NUMBER: US/09/765,555 CURRENT FILING DATE: 2000-01-21 PRIOR PILING DATE: 2000-01-21 PRIOR PILING DATE: 2000-01-21 PRIOR PILING DATE: 2000-01-21 PRIOR PILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR PILING DATE: 2000-01-21 PRIOR PILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-01-21 PRIOR PILING DATE: 2	Query Match 97.2%; Score 3207.2; DB 10; Length 3300; Best Local Similarity 98.2%; Pred. No. 0; Matches 3242; Conservative 0; Mismatches 58; Indels 0; Gaps 0; CGACACCATCGAAGAGAACCTTTCGCGGTATGGCATGATAGCGCCGGAAGAGA 60 Qy 1 CCGACACCATCGAATGGTGAAACCTTTCGCGGTATGGCATGATAGCGCCGGAAGAGA 60 Db 1 CCGACACCATCGAATGGTGAAACCTTTCGCGGTATGGCGTGATAGCGCCGGAAGAGA 60 Qy 61 GTCAATTCAGGGTGAATGTGAACGTTATACGATGTCGCAGAGTATGCCG 120 Db 61 GTCAATTCAGGGTGAATGTGAACGTTATACGATGTCGCAGAGTATGCCG 120 Qy 121 GTGTCTCTTATCAGACGTTTCCCGCGTGGTGAACCAGCCAG
1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCTGTGTGTG	221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 222 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2281 AAGGGTCCAACCATCCATGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340 2381 CCGAACAAAAGAGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340 231 CCGAACAAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATTAACGCCGCCAGT 2340 2401 GAAGGGTTAATAAAAAAAAACCGTTGGTGGAAACTATCTGCTGACTGA	2581 GCCAGCGCTCGTCATACAATACAAAGCCCTGAAAGCCCTGATATTCGAGCTCG 2641 AACAACAACAACAATAACAACAACACCCCGGGGCGGGGGGGG

131 CTGGCDANTRITCTGAANTGACTGTTGACANTTARTCATCGCTCGTRIANTTGTGTGGAATATTGACGAAAAATTCACACAATATTATCACACGAAAAATTCACACAAAAATTCACACAAAAAATTCACACAAAAAA
8 4 4 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
11 ACCACTCCCTCCAAATTGCCCCCATTAAATTCCCCCCCATCAATCTCCCCCCCC

ద

ò

윰 ò 8

ठे

요

ठे

셤 ò g 셤 ሯ g

ઠે

ద

ò 셤 ò 셤 ठे 셤 ठे 셤 ठे 셤

ò

ò

```
GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241 AACAACTGGGGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301 Acececcorcecaaarrerceceecaarraaarcreececearcaacreeerecaece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGGTGGTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIGCTOTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                          FEATURE:
NAME/KEY: CDS
LOCATION: (1528)..(3453)
CTHER INFORMATION: /product = fusion protein MBP Cystatin C BMP-2
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 18;
                                                                                                              OTHER INFORMATION: Expression vector pMalc2cchbmp2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  82.0%; Score 2705.8;
99.2%; Pred. No. 0;
iive 0; Mismatches
                                       LENGTH: 7373
TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 99.2'
Matches 2719; Conservative
          Patentin Ver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-257-384A-1
          SOFTWARE:
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                             2640
                                                                                                                                                                               2640
                                                                                                                                                                                                                                                2700
                     GGATCCTCTTCCTCTGTGGCCCCAGGCGCCCTCGAGCCCCGGGGAAGCCCTATGCTTGT 2760
                                                                                                                                                                                                                                                                                                                                                                        2761 CCGGAATGTGGTAAGTCCTTCAGCGATCCTGGCCACCTGGTTCGCCACCAGCGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC 2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Publication No. USJ0040087524A1
GENERAL INFORMATION:
APPLICANT: Wadbach, Gunter
TITLE OF INVERNATION:
APPLICANT: Maubach, Gunter
TITLE OF INVENTION: Agent for postoperative use after removal of bone tumors
FILE REPERENCE: 2945-101
CURRENT APPLICATION NUMBER: US/10/257,384A
CURRENT FILING DATE: 2003-08-21
PRIOR APPLICATION NUMBER: PCT/DE 01/01510
PRIOR FILING DATE: 2001-04-18
PRIOR FILING DATE: 2000-04-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                               2701 GGATCCTCTTCTCTTGTGGCCCAGGCGCCCTCGAGGCCCGGGGAGAAGCCCTATGCTTGT 2760
                                                                                                                                                                                                                                                                                                                                              CCGGAATGTGGTAAGTCCTTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                       2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGTCTTTCTCTCGGTCTGACAATCTCGGTCCGACCAACGTACTCACACCGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3001 CCCTATGCTTGTCCGGAAIGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2941 AAGTCTTTCAGCCAGAGCTCCAGCCTGGTGCGCCACCAACGTACTCACACCGGGGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3061 CACCGACACGACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGT 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3121 CAGGCCGCCACCTGGCCAGCCATCAACGCACTCATACTGGCGAGAGACCATACAAATGT 3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3241 ACCGGTAAAAACTAGTGGCCAGGCCGGCCAGTACCGGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3300
TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCCAGAAAGGTGAAATCATG
                                                                                        2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                      GCCAGCGCCTCACACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                       AACAACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                    CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTACTGCGGTGATCAACGCC
                                                                                                                                       GCCAGCGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3061 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCCAGAGTGCGGCAAATCTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3121 GACTGCCGCGACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-257-384A-1
 2461
                                  2461
                                                                    2521
                                                                                                                                     2581
                                                                                                                                                                        2581
                                                                                                                                                                                                                                           2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3001
                                                                                                                                                                                                                                                                           2701
                                                                                                                                                                                                                                                                                                                                              2761
                                                                                                                                                                                                                                                                                                                                                                                                                   2821
                                                                                                                                                                                                          2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3181
```

ô

Gaps

.; 0

Length

9 9 180

180 240 300 300 360 360 420 420 480 540

	1861 GAAGCGTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920		2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGATGATGAGGTCTG 2400 2341 CCGAACAAAGAGCTGGCAAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2581 GCCAGCGGTCGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 2581 GCCAGCGGTCGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 2641 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGAAGGA
6 6 6 6 6 6 6	8 8 8 8 8 8 8	8 6 8 6 8 6 8	666666666666666666666666666666666666666	8 8 8 8
	0 0 0 0 0	00 00 00 00 00 00 00 00 00 00 00 00 00	0 0 0 0 0 0	0 0 0 0 0 0
			AATTCG AATTCG AATTCG ACGGTT AC	ATTGTGAGGGGATAACAATTTCACACAGGAAACAGCCGGTCTGAGGTGTTTTCACGA 1500 GCACTTCACCAACAAGAACAGAACAGAAGAAGGTAAACTGGTAATTTGACGA 1500 GCACTTCACCAACAAGAGCCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560 GCACTTCACCAACAAGGACCATAACGTCTCGCTGAAGAAGGTAAACTGGTAAATCTGG 1560 ATTAACGGCGATAAAGGTCTCGCTCGAGTGGTAAAATTCGAGAAAGAT 1620 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAAATTCGAGAAAGAT 1620 ATTAACGGCGATAAAGGCTATGAGGATCCGCTGAAGAAGAATTCCCACAGGAT 1620

99 720 780

900

```
GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
       481 ITGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTTGACCAGA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGGT 1620
                                                                                                                                      TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                              541 CACCCATCAACAGTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                             TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                      CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                   CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                            901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                  1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGGGGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                             TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                    961 GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081 CGCAAACCCCCTCTCCCCCGCGCGTTGGTTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1441 AITGIGAGCGGATAACAAITTCACACAGGAAACAGCCAGICCGITTAGGIGITTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1441 ATTGTGAGGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGATAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTCGCTCAAGGCGCACTCCCGGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                 1021
                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                          601
                                                                                                 601
                                                                                                                        661
                                                                                                                                             661
                                                                                                                                                                    721
                                                                                                                                                                                         721
                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1261
                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1561
                                              g
                            à
                                                                         ò
                                                                                              엄
                                                                                                                  8
                                                                                                                                       g
                                                                                                                                                                  ò
                                                                                                                                                                                   g y
                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                   6 6
                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                            ∂
                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                   ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATAGGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 GIGICICITATCAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 ACGCGCCGTCGCAAATTGTCGCGCCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                        DB 17; Length 8101;
                                                                                                                                                                                                                                                                                                                                           FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: JM109 / pMAL - Hs Cdc25C strain
                                                                                                                                                                                                                                                                                                                                                                                                                               2; Indels
 2701 GGATCCTCCAGTCCCGGCAAGCCGCCGCGCCTGGTGGGAGG 2741
                                                                                                                                                                                                                                                                                                                                                                                                     11arity 99.9%; Pred. No. 0; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                          TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Simil
Matches 2707; (
                                                                                                                                                                                                                                                                                                            LENGTH: 8101
                                                                                                                                                                                                                                                                                                                                                                              US-10-149-472-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  유
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 & 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6 8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

1020 1020

840

900 900 960

840

1080 1140 1140 1440

유성

8 6

8 B 8

8 6 8 6 8

8 8 8

ò

8 6

g

ò

셤

ઠે

g

8

ઠે

6 6 6 6

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGTCTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGAAAAAGTGGAGGCGGAGCTGAGTTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGGGAAAAAGTGGAAGCGGCGATGGCCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGCCCCGTCCCAAATTGTCCCCCCCATTAAATCTCCCCCCCATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Description of the artificial sequence: plasmid OTHER INFORMATION: pMAL-c2x
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 81.8%; Score 2701; DB 19; Length 6648; Best Local Similarity 99.8%; Pred. No. 0; Matches 2704; Conservative 0; Mismatches 5; Indels 0;
                                                                                                                                                    'n
                                                                                                                                                       mutations
                                                                                         Sequence 8, Application US/10343859
; Sequence 8, Application US/10343859
; Publication No. US20040110161A1
; GENERAL INFORMATION:
; TITLE OF INVENTION: Method for detecting mut;
; TITLE OF INVENTION: Method for detecting mut;
; TITLE OF INVENTION: Method for detecting mut;
; FILE REFERENCE: 612,406-033
; CURRENT APPLICATION NUMBER: US/10/343,859
; CURRENT APPLICATION NUMBER: PCT/EP01/08127
; PRIOR FILING DATE: 2001-07-13
; PRIOR FILING DATE: 2000-04
; NUMBER OF SEQ ID NOS: 52
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Artificial sequence
2709
                           2709
GGATCCTCT
                        2701 GGATCCTCT
                                                                   RESULT 8
US-10-343-859-8
                                                                                                                                                                                                                                                                                                                                                                                                 ; OTHER INFORM
US-10-343-859-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        상
음
당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  상 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 %
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
ઠે
                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                                                                                                     2040
                                                                                                                                                                                                                                                                                                                                                                                                           2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2580
                                                                                                                                                                                1860
                                                                                                                                                                                                                                        1920
                                                                                                                                                                                                                                                                                               1980
                                                                                                                                                                                                                                                                                                                                                                                2040
                                                                                                                                                                                                                                                                                                                                                                                                                                         2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2221 GCATGGTCCAACATCGACAACAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                   GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                            GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                            GAGATCCCGGCGCTGGATAAAGAACTGAAAGGGAAAGGGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                    CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGGCGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                          TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCGCTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAGCGGTTAATAAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCAGCGCTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCCAGCTCG
                                                                                                                          GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                       GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                            CGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCCGATCGCTGTT
                                                                                                                                                                                                                                     GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACATGATGCAGACACGGTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCAGCGGTCGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                   GCGGCAACTGGCGATGGCCCTGACATTATCTTGGGGCACACGACGGCTTTGGTGGCTAC
                                                                                                                                                                                CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                       1621
                                                                                                                                                   1741
                                                                                                                                                                                                                                                                 1861
                                                                                                                                                                                                                                                                                                                        1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2641
                                                                   1681
                                                                                              1691
                                                                                                                       1741
                                                                                                                                                                               1801
                                                                                                                                                                                                         1801
                                                                                                                                                                                                                                      1861
                                                                                                                                                                                                                                                                                              1921
                                                                                                                                                                                                                                                                                                                                                     1981
                                                                                                                                                                                                                                                                                                                                                                                1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2101
```

8 8 8

중 음

GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC	1081 GUGGLAACTGGCCCTGACATTATCTTCTGGGCACACGCCTTTGGTGGCTAC 1740 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800	-	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCCGAAACCCGCCAAAAACCTGGGAA 1920 	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCCGGTGATTGCTGCTGCTGACGGGGTTATGCGTTCAAG 2040 	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACACCGATTAC 2160 	2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAAACAGCGATGACCATCAACGGCCCGTGG 2220 	2221 GCATGGTCCAACATCGACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 [2281 AAGGGTCAACCATCCAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340 [2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2401 GAAGCGGTTAATAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 	2461 TTGGCGAAAGATCCACGTATTGCCGCCCCACGAGAAACGCCCAGAAAGGTGAAATCATG 2520 	2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	2581 GCCAGGGTCGTCAACATGTCGATGAAGCCCTGAAAGACGGCACAACTAATTCGAGCTCG 2640 	2641 AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700	2701 GGATCCTCT 2709
ò i	8 8 8	ç d	9 g	ර් සි	ò a	ò a	රු පු	& 4	& A	දු පු	& 8	& 8	S S	P Q	ව ර	è 8 6	g q
-					17 61												
541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC 600 601 TGGTCGCATTGGGTCACCAGCAAATGCGGGTTAAGGGGGCCCATTAAGTTCTGTCTCGG 660	TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660 CGCGTCTGCGCTCGGCTGGCTGGCATAAATATCTCACACACA				ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 102/ 	AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACACCCCCGGCGCCCAATA 1086 	CGCAAACCGCCTCTCCCCGCGGGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 114(CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCA	GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 126(TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 	CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 	CACGA		attaacggcgataaaggctataacggtctcgctgaagtcggtaagaaattcgagaaagat 1620 	Acceaattaaastcaccattgacatcceaataaactgeaagaaattcccacagst 1680

```
1140
                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1680
                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                                                                                            1020
                                                                                                                                                                                                                                                                                                                                       1080
                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGCAACTGGCGATGGCCCTGACATTATCTTGGGCACCGCACCGCTTTGGTGGCTAC 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGGCAACTGGCGATGGCCCTGACATATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740
                                                                                                                              840
                                                                                                    780
                                                                                                                                                      840
                                                                                                                                                                                                                                  960
  9
                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                    CGCAAACCGCCTCTCCCCGCGCGTTGCCGATTCATTAATGCAGCTGGCACGACAGGTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGCCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGCCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCACTTCACCAACAAGGACCATAGGAAAATCGAAGAAGGTAAACTGGTAAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                       CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                          CGGAACGGGAAGGCGACTGCGATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                             ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                             GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                            GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
501 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                            CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                               ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                        recececarracegaerecesecrececerrecrecegararerestates
                                                                                                                                                                                                                                                                                                                                       AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                          CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                841
                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1681
                                                                                                                              781
                                                                                                                                                      781
                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1321
                                                                            721
                                                                                                      721
                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>ک</u> ۾
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                g
                                                                                                                                                                                                    음
                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                         8 6
                                                                    8
                                                                                               g
                                                                                                                           જે
                                                                                                                                                                        જે
                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGGAGCATC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660
                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Description of the artificial sequence: pMALc2x-mutS OTHER INFORMATION: plasmid
                                                                                                                                                                                                                                                                                                                                                                                                     CGCGGGBABABGTGGBAGCGGCGBTGGCGGBGCTGBATTACATTCCCBACCGCGTGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Acoccccccccaarricrccccccarraarcrccccccarcaacrccccccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                    19; Length 9191
                                                                                                                                                                                                                                                                                                                                                                              5; Indels
                                                                       TITLE OF INVENTION: Method for detecting mutations in TITLE OF INVENTION: Method for detecting mutations in TITLE OF INVENTION: mucleotide sequences FILE REFERENCE: 612,406-013
CURRENT APPLICATION NUMBER: US/10/343,859
CURRENT APPLICATION NUMBER: DCJ/EP01/09127
PRIOR APPLICATION NUMBER: PCT/EP01/09127
PRIOR FILING DATE: 2001-07-13
PRIOR FILING DATE: 2000-08-04
NUMBER OF FILING DATE: 2000-08-04
NUMBER OF SEQ ID NOS: 52
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                        81.8%; Scor.
99.8%; Pred. No. o;
... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                    DB
          Sequence 9, Application US/10343859; Publication No. US20040110161A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                          TYPE: DNA
ORGANISM: Artificial sequence
PEATURE:
                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 99.8
Matches 2701; Conservative
                                                                                                                                                                                                                                SEQ ID NO 9
LENGTH: 9191
                                                                                                                                                                                                                                                                                                              ; OTHER INFORU
US-10-343-859-9
                                                                                                                                                                                                                                                                                                                                                                                                                               ٦
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
```

g

8

ઠે

g

ò

g ò 셤 ठ

õ

셤 ઠે g

ð

6 8 8

셤

```
GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGGTACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAAAGCGGCGATGGGGGAGCTGAATTACATTCCCCAACCGGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCCAACGCGTCAGTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGGATGGGGGGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
     GENERAL INFORMATION:
APPLICANT: Abbott Laboratories
APPLICANT: Abbott Laboratories
APPLICANT: Maine, Gregory T.
APPLICANT: Patel, Chandu B.
APPLICANT: Bitses, Timothy R.
ITLE OF INVENTION: GENERALIZALLY ENGINEERED P30 ANTIGEN,
ITLE OF INVENTION: GENERALIZALLY ENGINEERED P30 ANTIGEN,
ITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REFERENCE: 6984 US.01
CURRENT FILING DATE: 2002-10-22
NUMBER OF SEQ ID NOS: 74
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 40
LENGTH: 1112
                                                                                                                                                                                                                                                                                          Length 7112
                                                                                                                                                                                                                                                                                                                ó
                                                                                                                                                                                                                                                                                                               6; Indels
                                                                                                                                                                                                                                                                                       DB 18;
                                                                                                                                                                                                                ; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1528)...(3189)
; OTHER INFORMATION: pMBP-c2X-ToxoP30dell1 (52-214aa)
US-10-263-153-40
                                                                                                                                                                                                                                                                                      81.5%; Score 2690.4;
99.8%; Pred. No. 0;
Live 0; Mismatches
US20040067239A1
                                                                                                                                                                                        TYPE: DNA ORGANISM: Toxoplasma gondii
                                                                                                                                                                                                                                                                                                Best Local Similarity 99.8
Matches 2694; Conservative
                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         $ A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                      1920
                                                                                                                                                                                                   2040
                                                                                                                                                                                                                                                  2100
                                                                                                                                                                                                                                                                       2100
                                                                                                                                                                                                                                                                                               2160
                                                                                                                                                                                                                                                                                                                                                                                                                                          2340
                                                                                                                                                                                                                                                                                                       TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220
                                                                                                                                                                                                                                                                                                                                                       2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220
                                                                                                                                                                                                                                                                                                                                                                                      GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                                                                   2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2700
   GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                1801 CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                               GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                       GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                             GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                             CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGGTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                           GGTCTGACCTTCCTGGTTGACCTGATTAAAAACACACATGAATGCAGACACCGATTAC
                                                  CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT
                                                                                                                                                                      GAGATCCCGGCGCTGGATAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                           TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCATGGTCCAACATCGACACCACAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGTGAGCGCAGGTATTAACGCCGGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAGCGGTTAATAAAGACAAAACGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTGTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2461 TIGGCGAAAGAICCACGIATIGCCGCCACTAIGGAAAACGCCCAGAAAGGGGAAAICAIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGAACATCCCGCAGATGTCCGCTTTCTGGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGGCGAAAAGATCCACGTATTGCCGCCACGTGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGATCC 2706
     1741
                                                  1801
                                                                                               1861
                                                                                                                        1861
                                                                                                                                              1921
                                                                                                                                                                      1921
                                                                                                                                                                                              1981
                                                                                                                                                                                                                     1981
                                                                                                                                                                                                                                           2041
                                                                                                                                                                                                                                                                   2041
                                                                                                                                                                                                                                                                                                                2101
                                                                                                                                                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                          2101
                                                                                                                                                                                                                                                                                                                                        2161
                                                                                                                                                                                                                                                                                                                                                                                        2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2341
                                                                                                                                                                                                                                                                                                                                                                                                                                      2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2701
  8 6
                                              8 &
                                                                                          $ 8 8
                                                                                                                                                              g
                                                                                                                                                                                          ઠે
                                                                                                                                                                                                             요
                                                                                                                                                                                                                                     ठे
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                 ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6 6 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            යි දි
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       용
```

ö

Gaps

120 120

9

240 180

240 300 300 360

420 360

420 480 480 540 900 900 9 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720

661

ద ò

RESULT 10 US-10-263-153-40 , Sequence 40, Application US/10263153

601 IdGICGCATIGGGICACCAGCAAATCGCGCTGTIAGCGGGCCCATIAAGTICTGTCTCGG

900 900

```
GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020
                                                                                                                                                                                                           GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
                                                                     GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                        ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                      TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                    ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                               TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                           CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                      GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCAACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGCCACACGCCATGCCCTGACATTATCTTCTGGGCACACGCCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1741 GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGGCAACTGGCGATGGCCCTGACATTATCTTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ccentraccrissariscceracerracaacescaascrisarraccrisaricscristra
                                                       841
                                                                              841
                                                                                                                                                                                               1021
                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                          1261
                              781
                                                                                                    901
                                                                                                                                                196
                                                                                                                                                                      961
                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                                                                                                                                                                                                1321
                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1861
                        g
                                               ठ
                                                                       음
장
음
                                                                                                                                          8 B 8
                                                                                                                                                                                                           8 8 8
                                                                                                                                                                                                                                                                               8 6 8 6
                                                                                                                                                                                                                                                                                                                                                                               8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                            GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                CGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                      CCGACACCATCGAATGGTGCAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                            AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTAAATATCTCACTCGCAATGAATTCAGCGGTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGCATGTCCAGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                      Length 7259;
TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REPERENCE: 6984.US.01
CURRENT APPLICATION NUMBER: US/10/263,153
CURRENT FILING DATE: 2002-10-22
NUMBER OF SEQ ID NOS: 74
SEQ ID NO 30
LENGTH: 7259
                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                              6; Indels
                                                                                                                             DB 18;
                                                                                                                                                                                                  Query Match
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches
                                                                                                        TYPE: DNA ORGANISM: Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                 н
                                                                                                                                                                                                                                                                      н
                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
```

1200

ò 유 දු ද

ò 8 S g

ઠે 요

8 6 8 6

ठे हे ठ

8 8 8

666666

1260

1320

1380 1320

1380 1440 1440 1500

8 8 8 8

ે

g ઠે g ò g ઠે 셤 ò 셤 ઠે 엄 ठे 셤

```
ö
                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                  9
                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                           CGCGGGAAAAAGTGGAAGCGGCGATGGCGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGGTAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCCCCTCCCAAATTGTCCCCCCATTAAATCTCGCCCCCATCAACTGGGTGCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGTCTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                           ccaacaccarcaargerecaaaccrrrcecegrarescarearacececegaagaga
                                                                                                                                                                                                                                                                                                              GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cecercrecercrescrescrescrananararcrescrescrarcaarreagesearas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGGGTGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                       Gaps
                                                                                                                                          DB 18; Length 7322;
                                                                                                                                                                     ö
                                                                                                                                                                     6; Indels
                                                                                    ; LOCATION: (1528)...(3399)
; OTHER INFORMATION: pMBP-c2X-ToxoP30del10 (52-284aa)
US-10-263-153-35
                                                                                                                                        Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                          Query Match
Best Local Similarity 99.8%;
Matches 2694; Conservative
  SEQ ID NO 35
LENGTH: 7322
TYPE: DNA
ORGANISM: Toxoplasma gondii
                                                        FEATURE:
NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                           Н
                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                  à
                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                              2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2460
                                                                        1980
                                                                                                  2040
                                                                                                                                                       2100
                                                                                                                                                                                 2100
                                                                                                                                                                                                              2160
                                                                                                                                                                                                                                          2160
                                                                                                                                                                                                                                                                     2220
                                                                                                                                                                                                                                                                                                                           2280
                                                                                                                                                                                                                                                                                                                                                       2280
                                                                                                                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                                                                                                              2340
                                                                                                                                                                                                                                                                                                                                                                                                                                          2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2700
                                                                                                                                                                                                                                                                                                                                                                                GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCCCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTCGGGAA
                                                              CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGGTTATGCGTTCAAG
                                                                                                                                                                     TATGAAAAACGGCAAGTACGACATTAAAGACGTGGGGGGTGGATAACGCTGGCGGAAAGCG
                                                                                                                                                                                                                             GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                  TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                       TTGGCGAAAGATCCACCTATTGCCGCCACCATGGAAAAGGCCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2461 TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGGTGACTGCGTGATCAACGCC
                                           CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                     TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                              GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACATGAATGCAGACACGGATTAC
                                                                                                                                                                                                                                                                    TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                          GCATGGTCCAACATCGACACCCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2401 GAAGCGGTTAATAAAGACAAACCGCTGGCTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCAGCGCTCCTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Abbott Liaboratories
APPLICANT: Abbott Liaboratories
APPLICANT: Maine, Gregory T.
APPLICANT: Patel, Chandu B.
APPLICANT: Ginsburg, Sanford R.
APPLICANT: Ginsburg, Sanford R.
APPLICANT: Ginsburg, Sanford R.
APPLICANT: Ginsburg, Sanford R.
APPLICANT: Ginsburg, Sanford R.
TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
TITLE OF INVENTION: UMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REFERENCE: 6984.US.01
CURRENT APPLICATION NUMBER: US/10/263,153
CURRENT FILING DATE: 2002-10-22
NUMBER OF SEQ ID NOS: 74
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 35, Application US/10263153
Publication No. US20040067239A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
US-10-263-153-35
                                                                                                                           1981
                                                                                                                                                                                 2041
                                                                     1921
                                                                                                                                                       2041
                                                                                                                                                                                                                                                                                                                                                                                2281
                                                                                                                                                                                                                                                                                                                                                                                                           2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2641
                                                                                                                                                                                                                                                                  2161
                                                                                                                                                                                                                                                                                                                                                                                                                                        2341
                                           1921
                                                                                                 1981
                                                                                                                                                                                                                                        2101
                                                                                                                                                                                                                                                                                              2161
                                                                                                                                                                                                                                                                                                                          2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461
                 1861
                                                                                                                                                                                                             2101
                                                                                                                                                                                                                                                                                                                                                    2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2581
```

8686

셤

8

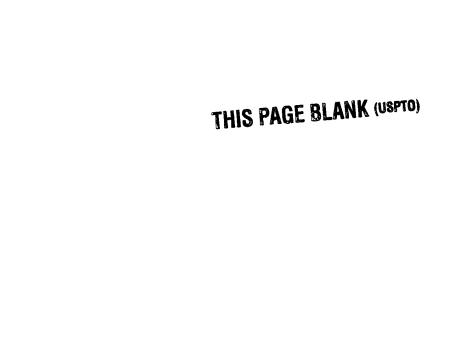
1981 CTGCAAGAACCCTACTCACCTGACTGATTGCTGCTGACGGGGTTATGCGTTCAAG 2040	RESULT 13 US-10-263-153-25 Squence 25, Application US/10263153 Publication No. US20040067239A1 GENERAL INFORMATION: APPLICANT: Abbott Laboratories APPLICANT: Maine, Gragory T. APPLICANT: Batel, Chandu B. APPLICANT: Batel, Chandu B. APPLICANT: Bises, Timcthy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Bises, Timchy R. APPLICANT: Associated and Control of the Con
	1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGAAGAAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGAAGAAGAGAAATTCCCACAGGTT 1680 1631 GCGCAACTGGCGATGGCCTGACATTTCTTCGGCCACACGGCTTTTGGTGGCTAC 1740 1631 GCGCAACTGGCGTTGACATTATCTTCTGGGCACACGGCTTTTGGTGGCTAC 1740 1741 GCTCAATCTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTT 1800 1741 GCTCAATCTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTT 1800 1741 GCTCAATCTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTT 1800 1801 CCGTTTACCTGGGATGCCGTACGTTACCAGGACAAGCTGTT 1860 1802 CCGTTTACCTGGGATGCCGTACGTTACCAGGACAAGCTGTT 1860 1803 CCGTTTACCTGGGATGACAAAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT 1860 1804 GAAGCGTTATCGCTGATTATAACAAAGCGCAACCCGCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATAACAAAGCGAACCTGCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTATAACAAAGCGAACCTGCAAAAACCTGGGAA 1920 1861 GAATCCCGGCCTGGATAAAGAACTGAAAGCTGCAAAAACCTGGGAA 1920 1861 GAATCCCGGCCTGGATAAAGAACGGAAAGGTAAGAGCGCTGATTCAAC 1980 1921 GAGATCCCGGCCTGGATAAAAGACGAAAAGCTGAAAAACCTGGGATGTTCAAC 1980 1921 GAGATCCCGGCCTGGATAAAAGACGAAAAGCGAAAAAACCTGGGATGTTCAAC 1980 1921 GAGATCCCGGCCTGGATAAAAAACTGAAAAGCGAAAAAACCTGGATAAAAACCTGGAAAAACCTGGAAAAACCTGGAAAAACCTGGAAAAACCTGGAAAAAACCGCCTAAAAAAACCGCCCAAAAAACCTGAAAAACCGAAAAAACCGCCCAAAAAACCGCCTAAAAAAACCGAAAAAACCGCCTAAAAAAACCGAAAAAACCGAAAAAACCGAAAAAAAA

961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 102 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA 108 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA 108 1081 CGCAAACCGCTGTCGCCGGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGTTT 114 1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGTTT 114 1081 CGCAAACCGCCTCTCCCCGGCGGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 114	0y 1141 CCCGACTGGAAAGCGGCAGTGAGCCAATTAATGTGAGTTGAGTTGATTGA	1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCGCTGATAATTCG 1320	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCGGTCGGT	DD	OY 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620 DD	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGGTT 1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGCCACACGCTTTGGTGGCTTCCCACAGGTT 1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCCACACGCTTTGGTGGCTGCTTC 1681 GCGCAACTGGCGATGGCCCTGACATTATCTTCTGGGGCACACGACGCTTTGGTGGCTAC	OY 1741 GCTCAATCTGGCTGTTGGCTGAATCACCCGGACAAGGGTTCCAGGACAGTGTAT 1800 DD 1741 GCTCAATCTGGCTTGGCTGAATCACCCGGACAAGGGTTCCAGGACAGCTGTAT 1800 1741 GCTCAATCTGGCTGGAATCACCCGGACAAGGGTTCCAGGACAGCTGTAT 1800 OY 1801 CCGTTTACCTGGGATGCCGTAACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 DD 1801 CCGTTTACCTGGGATGCCGTAACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860	09 1861 GAAGCGTTATCGCTGATTTATAACAAGGAAGCGGAACCGGCCAAAAACCTGGGAA 1920	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAGG 2 1981 CTGCAAGAACCGTACTTCACCTGGCGTGATTGCTGACGGGGGTTATGCGTTCAAG 2 1
					0 1 0				
OTHER INFORMATION: pMBP-c2X-ToxoP30del4C (52-294aa) US-10-263-153-25	61 GTCAATTCAGGGTGATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120	CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAAAA 1 CGCGGGAAAAAAGTGGAAGCGGCGATGGCGAGCTGAATTACATTCCCAACCGCGTGGCAC 2 CGCGGGAAAAAGTGCATGGCGAGCTGAATTACATTCCCAACCGCGTGGCAC 2 AACAACTGGCGGCGAACAACAGTCGTTGCTGATTGGCGATTTCCCACCTCAGTGGCGTGGCAC 1	241 AdvactedeGeGeAaAcActectrectGatreGeGeTreccActecteGatereCeGeCeTrec 300 301 ACGCGCCGCAAATTGTCGCGGCGATTAAATCTCGGGCCGATCAACTGGGTGCCAGG 360 301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGG 360 301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGG 360		CCAGA	541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGACTGGGGCGTGGACTTC 600 [CGCGTCTGCGTCTGGCTGGCTGGCTAAATATCTCTCGCAGTCAAATTCAGCCGGTAG	721 CGGAACGGGAACTGGAGTGCCATGTCCGGTTTTCAACAACCATGCAAATGCTGA 780 781 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGAGCGCTGGGCGCA 840 781 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840 781 ATGAGGCATCCTTCCCACTGCGATGCTGGCTGATGGCGCTGGGCGCAA 840 841 TGCCGCCATTACCGAGTCCGGCTTGCCGATGTGCGGAATACTCGGTAGTGGCGCAA 900	841 TGCGCCATTACCGAGTCCGGCTTGGTGCGGATATCTCGGTAGTGGGATACG 901 ACGATACCGAAGACCGCTAATATCCCGCCGTTAACCACACACA

120 120 GIGICTCTTATCAGACCGTTTCCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA 180 180 240 240 300 1020 1140 300 360 360 420 420 480 9 480 540 540 600 99 9 900 9 720 720 780 780 840 840 900 900 960 1 CGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG GIGICTCTIATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAA 301 ACGCGCCGTCGCAAATTGTCGCCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCGGCG CGCGGGAAAAAGTGGAAGCGGCGATGGAGCTGAATTACATTCCCAACCGCGTGGCAC AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC TGGTGGTGTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGGTGCACAATC TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGGGTTATTTCTTGATGTCTCTGACCAGA CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG CGGAACGGGAACGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGATATCTCGGTAGTGGGATACG CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCGGATAG CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA ACGATACCGAAGACAGCTCATGTTATTCCCGCCGTTAACCACCATCAAACAGGATTTTC GCCTGCTGGGGGAAACCAGCGGTGGAACTGCAACTCTCTCAGGGCCAGGCGGTGA

```
2400
                      2580
                            2640
                               2640
                                 2340
    2400
          2520
                   2520
                         2580
2521
          2401
 2281
             2401
                      2521
 6 B 6 B 6 B 6 B 6 B 6 B
                                    ద
```

Search completed: August 3, 2005, 04:21:42 Job time : 1322.2 secs



OM nucleic

Run on:

Sequence:

Searched:

Database

Result No.

```
Ad190419 Clostridi
Ac(60553 Vector pJ
Ad173599 Plasmid p
Ad173599 Plasmid p
Ad173599 Plasmid p
Ad173599 Plasmid p
Ad773600 Plasmid p
Ad73209 Plasmid p
Ad73209 Plasmid p
Ad72329 Plasmid p
Ad72229 DNA seque
Ad465059 Transposo
Ad464617 Donor pla
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad172229 DNA seque
Ad166591 Plasmid p
Ad33522 Expressio
Ad233521 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
Ad033531 Vector pG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               / transl except= (pos:2785. 2787, aa:Asp)
/ transl except= (pos:2788. 2790, aa:Pro)
/ transl except= (pos:2878. 2790, aa:Pro)
/ transl except= (pos:2872. 2874, aa:Arg)
/ transl except= (pos:2875. 2877, aa:Ala)
/ transl except= (pos:2878. 2886, aa:His)
/ transl except= (pos:2838. 2955, aa:Glu)
/ transl except= (pos:2953. 2955, aa:Glu)
/ transl except= (pos:3121. 3123, aa:Arg)
/ transl except= (pos:3121. 3123, aa:Arg)
/ transl except= (pos:3124. 3126, aa:Arg)
/ transl except= (pos:3136. 3132, aa:Arg)
/ transl except= (pos:3136. 3131, aa:Arg)
/ transl except= (pos:3136. 3131, aa:Arg)
/ transl except= (pos:3136. 3131, aa:Arg)
/ transl except= (pos:321. 3213, aa:Arg)
/ transl except= (pos:3205. 3207, aa:Glu)
/ transl except= (pos:3211. 3213, aa:Arg)
/ transl except= (pos:3211. 3213, aa:Arg)
/ transl except= (pos:3226. 3327, aa:Arg)
/ transl except= (pos:3220. 3325, aa:Ser)
/ transl except= (pos:3221. 3225, aa:Ser)
/ transl except= (pos:3221. 3225, aa:Ser)
/ transl except= (pos:3221. 3225, aa:Ser)
/ transl except= (pos:3221. 3225, aa:Ala)
/ transl except= (pos:3221. 3225, aa:Ala)
/ transl except= (pos:3221. 3225, aa:Ala)
/ transl except= (pos:3221. 3225, aa:Ala)
/ transl except= (pos:3220. 3222. 3a:Ala)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Partial sequence of pMal-m1 and ZFPm1 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2719. .3270
/*tag= a
/product= "ZFPm1 protein"
                                     ADL18670
ADH73599
ADH73599
ADH73600
ADH73601
ABZ23339
ABQ73209
AAD45059
ADG46817
ADL72229
ADG76817
ADL72229
ADL72229
ADL72229
ADL72229
ADL72229
ADL72229
ADL72229
ADL73228
ADL73228
ADL73228
ADL73229
ADL73228
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADL73229
ADC73089
ADF33522
ADF360491
                                                                                                                                                                                                                                                                                                                                                                   ADE24112
ADO33532
ADO33531
AAD29720
AAC55459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ВЪ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAD11588 standard; DNA; 3300
   Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer bind
     1609.4
11462.4
14662.4
14662.4
14662.4
14162.4
1418.2
14117.6
11417.6
11417.6
                                                                                                                                                                                                                                      1362
1238.4
1238.4
1237.2
1237.2
                                                                                                                                                                                                                                                                                                                                                  1204
1204
1204
1204
1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAD11588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAD11588
     Add11588 Partial s
Add11592 Partial s
Add11592 Partial s
Add11590 Partial s
Add11590 Partial s
Add11590 Partial s
Add11590 Partial s
Add21681 Nucleotid
Add21691 Nucleotid
Add21613 DNA encod
Add21598 DNA encod
Add21598 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21599 DNA encod
Add21598 DNA encod
Add21598 DNA encod
Add21598 DNA encod
Add21598 DNA encod
Add21598 DNA encod
Add21598 DNA encod
                                                                                                                          July 31, 2005, 14:24:04; Search time 1094.6 Seconds (without alignments) 17846.836 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                      1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                    GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                               4390206 segs, 2959870667 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAD11588
AAD11589
AAD11592
AAD11590
AAD11590
AAD23608
AD023613
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
                                                                                            nucleic search, using sw model
                                                                                                                                                                                                                                                                        IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N_Geneseq_16Dec04:*

1. geneseqn1980s:*

2. geneseqn1990s:*

3. geneseqn2001as:*

5. geneseqn2001as:*

6. geneseqn2002as:*

7. geneseqn2002bs:*

8. geneseqn2002bs:*

10. geneseqn2003cs:*

11. geneseqn2003cs:*

12. geneseqn2003cs:*

13. geneseqn2003cs:*
                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                  US-09-765-555B-14
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33300
33300
33300
33300
33300
43300
73350
73350
73350
73370
73370
7444
7443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4.79
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
997.7
907.7
907.7
907.7
907.7
907.7
907.7
907.7
907.7
907.7
907.7
907.7
907.7
9
                                                                                                                                                                                                                     Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
```

```
/*tag= b
/bound moiety= "F1-f2 primer"
2770. .2850
                                            /bound_molety= "F1-f1 primer"
2824. .2889
                                                                                                                                         "F3-b1 primer"
                                                                                                                                                                                                                           *tag= i
bound_moiety= "F4-f1 primer"
076, 3141
                                                                                                                                                                                                                                                                                                                                   "F6-bl primer"
                                                                                                                                                                         "F3-b2 primer'
                                                                                                                                                                                                       "F4-f2 primer'
                                                                                                                                                                                                                                                                                                                                                                    primer"
                                                                                             *tag= e
bound_moiety= "F2-f primer"
                                                                *tag= d
bound_moiety= "F2-b primer"
867. .2940
                                                                                                                                                                                                                                                          *tag= j
bound_moiety= "F5-b primer"
119. _3192
                                                                                                                                                                                                                                                                                         *tag= k
bound_moiety= "FS-f primer"
168. 3225
                                                                                                                                                                                                                                                                                                                                                                  "F6-b2
                                                                                                                       910.
/*tag= f
/bound_moiety= "
                                                                                                                                                                                     /*tag= h
/bound_moiety= "
                                                                                                                                                                                                                                                                                                                         /*tag= 1
/bound_moiety= "
3205. 3273
                                                                                                                                                                        bound_moiety=
992. .3042
                                                                                                                                                                                                                                                                                                                                                       '*tag= m
/bound_moiety=
                                                                                                                                                                                2992.
                                                                                                                      1916.
                     primer_bind
                                                     primer_bind
                                                                                                                                                                                                                                              primer_bind
                                                                                    primer_bind
                                                                                                                   primer_bind
                                                                                                                                                primer_bind
                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                                                             primer_bind
```

WO200152620-A2

26-JUL-2001

19-JAN-2001, 2001WO-US001817

21-JAN-2000; 2000US-0177468P, 21-JUL-2000; 2000US-00620897,

(SCRI) SCRIPPS RES INST. (SYGN) SYNGENTA AGRIC DISCOVERY INC

Dalmia B; Guan X, Barbas CF, Stege JT,

WPI; 2001-465325/50. P-PSDB; AAE06000.

the New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of target gene.

Example 4; Page 138-139; 156pp; English.

The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target mucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, tusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m1 and ZFPMIDNA.

ö GCCTGCTGGGGCAAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120 120 180 180 240 300 300 360 420 420 480 480 540 540 900 909 099 099 720 720 780 780 840 900 840 900 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG GTGTCTCTTATCAGACCGTTTCCCGCGTGGAACCAGGCCAGGCCACGTTTCTGCGAAAA CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCCGTGGAGCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGGCCCATTAAGTTCTGTCTCG AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTTTTTGATGTCTTGACCAGA CGCGTCTGCGTCTGGCTGGCTGAATATCTCACTCGCAATCAAATTCAGCCGATAG recececcarracceaerceeecrececerreereceeararcreeragreeragree Gaps TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCCGGTAGTGGGATACG ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA cegaaceegaaceeacresacrescarercescrrrrcaacaaaccarecaarecrea ö DB 4; Length 3300; Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other; 0; Indels 0; Mismatches 100.0%; Score 3300; 100.0%; Pred. No. 0; Best Local Similarity 100. Matches 3300; Conservative 241 721 Н 121 241 301 61 61 181 181 301 361 361 421 541 541 Query Match 121 121 481 481 601 601 661 661 721 841 781 841 901 901 196 X S g g ठ 8 g 상 임 ò Dp ò 임 ò g & ద Dp q 8 8 ∂ ઠે ò 8 8 a 8 6 8 6 ઠે g à

10.0 GTTCTRACCTTCCTGGTTGACCTGATTAAAACAACAACAATGATTCCAAATGCCGATTAC 2160
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
1021 AGGCCDATCAGCTGGTCCGTTGCTGCAACTCTCTCAGGCCGCGCCGCTT 1020 1021 AGGCCDATCAGTTGCTCCTCTCATCAGTGAAAAAACCACCCTGGCCCGCCGCCCTT 1020 1021 AGGCCDATCAGTTGCTCCTCTCTCATCAGTCACTCCTCCTCATCAGTTGCTCCTCTCATCAGTTGCTCCTCTCTCT

```
target gene
                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
   셤
                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
              3240
                           3300
                                       3300
                                                                                                                        Zinc finger protein; ZFP; gene expression; metabolic pathway regulator;
modulation; plant technology; agriculture; ds.
        3181 CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC
                                  3241 ACCGGTAAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGCT
CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC
                          ACCGGTAAAAAAACTAGTGGCCAGGCCGGCCAGTACCGGTACGACGTTCCGGACTACGCT
                                                                                                                                                                                   not include start and stop codon"
                                                                                                                                                                                                                                                                                         bound moiety= "F3-b1 primer"
953. .3021
                                                                                                                                                                                                                                                                                                            "F3-b2 primer"
                                                                                                                                                                                                                                                                                                                         *tag= h
bound_moiety= "F4-f2 primer"
022. 3102
                                                                                                                                                                                                                                                                                                                                                 "F4-f1 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                             'bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                            "F1-f2 primer'
                                                                                                                                                                                                                                "F1-f1 primer'
                                                                                                                                                                                                                                                                                                                                                                                                            "F6-bl primer'
                                                                                                                                                                                                                                                                *tag= e
bound_moiety= "F2-f primer"
916. _2973
                                                                                                                                                                                                                                                                                                                                                                     primer"
                                                                                                                                                                                                                                                   bound_moiety= "F2-b primer"
                                                                                                                                                                                                                                                                                                                                                                                          primer'
                                                                                                             Partial sequence of pMal-m2 and ZFPm2 DNA
                                                                                                                                                                            protein"
                                                                                                                                                                                                                                                                                                                                                                      "F5-b
                                                                                                                                                                                                                                                                                                                                                                                          "F5-£
                                                                                                                                                          ocation/Qualifiers
                                                                                                                                                                            "ZFPm2
                                                                                                                                                                                   "CDS does
                                                                                                                                                                                                                                                                                                                                                             /*tag= j
/bound_moiety= "
3119. .3192
                                                                                                                                                                                   /note= "CDS does
/partial
/2740. .2790
/*tag= b
/bound moiety= "
                                                                                                                                                                                                                         /*tag= c
/bound_moiety= "
2824. .2889
                                                                                                                                                                                                                                                                                                      /*tag= g
/bound_moiety= "
2992. .3042
                                                                                                                                                                                                                                                                                                                                           /*tag= i
/bound_moiety= "
3076. .3141
                                                                                                                                                                                                                                                                                                                                                                                                           bound moiety=
205. .3273
                                                                                                                                                                                                                                                                                                                                                                                        bound moiety=
168. .3225
                                                                      AAD11589 standard; DNA; 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19-JAN-2001, 2001WO-US001817
                                                                                                                                                                2719. .3270
/*tag= a
                                                                                                                                                                                                                                                          867. 72940
                                                                                                 (first entry)
                                                                                                                                                                            product=
                                                                                                                                                                                                                                                                                                                                                                                   *tag≖
                                                                                                                                                                                                                                             *tag=
                                                                                                                                                                                                                                                                                    *tag=
                                                                                                                                                                                                                                                                                                                                                                                                      *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200152620-A2
                                                                                                                                            Unidentified
                                                                                                24-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                                   primer_bind
                                                                                                                                                                                                                                      primer_bind
                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                            primer bind
                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                  primer bind
                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-JUL-2001
3181
                         3241
                                                                                   AAD11589;
                                                               RESULT
ò
          셤
                         ઠે
                                   셤
```

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZPP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZPP binding to the target modulated sequence, where the expression of the target gene in the plant cells is modulated. The ZPP and fusions of the ZPP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZPP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a discorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m2 and ZPPm2 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                              New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 Acceccercecaaarrerecececearraaarcreececearcaacreegreecagee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 4; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indela
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 3300;
100.0%; Pred. No. 0;
live 0; Mismatches
                                                                                                                                                                                                                                       Dalmia B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 4; Page 140-142; 156pp; English
                                                                                                             (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                                                                                                                                                                                                       Guan X,
21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 3300; Conservative
                                                                                                                                                                                                                                       Barbas CF, Stege JT,
                                                                                                                                                                                                                                                                                                            WPI; 2001-465325/50.
P-PSDB; AAE06002.
```

ö

9 9 120 120 180 240 300 300 360 360 420 420 480 480 540

 2700 2700 2760

ઠે ద ò 용 ò 셤

ò 음

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) Which is capable of specifically binding to a target uncleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target morcectide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-Ap3 (APETALA3) and ZFPAD3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97.8%; Score 3226.4; DB 4; Length 3300; 98.6%; Pred. No. 0; 1. o. 0; Mismatches 46; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3300 BP; 853 A; 872 C; 876 G; 699 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                   /*tag= m
/bound_moiety= "F6-b2 primer"
                                                                                                               *tag= g
/bound_moiety= "F3-b2 primer'
                                                                                                                                                           *tag= h
bound_moiety= "F4-f2 primer"
1022. .3102
                                                                                                                                                                                                        *tag= i
/bound_moiety= "F4-f1 primer"
3076. 3141
                                                                                                                                                                                                                                                                                                                                                                  bound_moiety= "F6-b1 primer"
                                                                                 bound_moiety= "F3-b1 primer"
                   '*tag= e
/bound_moiety= "F2-f primer"
                                                                                                                                                                                                                                                                        'bound moiety= "F5-b primer"
1119. 3192
                                                                                                                                                                                                                                                                                                                    /bound_moiety= "F5-f primer"
3168. .3225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Guan X, Dalmia B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 4; Page 148-149; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-JAN-2001; 2001WO-US001817
                                                                                                2953. 73021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 98.6°
Matches 3254; Conservative
                                                                    *tag=
                                                                                                                                                                                                                                                                                                         *tag=
                                                                                                                                                                                                                                                                                                                                                       *tag=
                                                                                                                                                                                                                                                                                       3119.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sarbas CF, Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "PI; 2001-465325/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P-PSDB; AAE06005
                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200152620-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                arget gene.
                                                                                                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-JUL-2001
    primer_bind
                                               primer_bind
                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                        primer_bind
                                                                                                primer_bind
                                                                                                                                              primer bind
                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                 primer_bind
      8
3000
                                                                                                                                                                                                                                                                                                                                                                    3120
                                                                                                                                                                                                                                                                                                                                                                                                 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                3180
                                                                                                                                                                                                                                                                                                                                                                                                                                               3121 CAGGCCGCCACCTGGCCACCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180
                                                                 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                              3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAGAATGTGGCAAGTCTTCTCTCGGTCTGACAATCTCGGTCCGGCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3241 ACCGGTAAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; Ap3; APETALA3; ds.
                                                                                                           2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGCCCAGTCCAGCAAC
                                                                                                                                                                                             CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                        AAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACCGGGGAGAAG
                                                                                                                                                                                                                                                                     AAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACCGGGGAGAAG
                                                                                                                                                                                                                                                                                                                                                                CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                               3061 CAGCGTACCCACACGGGGGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                             CAGGCCGCCCACCTGGCCAGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                 CCGGAATGTGGTAAGTCCTTCTCAGAGCTCTCACTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                          Acceptananacceratananicceaegacceaegaccaarcertracceaegaccaac
                                                                                                                                                                         CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'trans1_except= (pos:3124. .3126, aa:Ser)
'trans1_except= (pos:3127. .3129, aa:Ser)
'trans1_except= (pos:3136. .3138, aa:Val)
'note= "CDS does not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /*tag= c /bound_moiety= "F1-f1 primer" 2824. 2889 /*tag= d /bound_moiety= "F2-b primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               740. .2790
*tag= b
bound_moiety= "F1-f2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Partial sequence of pMal-Ap3 and ZFPAp3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   product= "ZFPAp3 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAD11592 standard; DNA; 3300 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      719. .3270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             770. . 2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-SEP-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                         2821
                                                                                                                                                                                                       2881
                                                                                                                                                                                                                                      2941
                                                                                                                                                                                                                                                                   2941
                                                                              2761
                                                                                                                                                                         2881
                                                                                                                                                                                                                                                                                                                                                                                                                             3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3181
                 2701
                                                 2761
                                                                                                                                                                                                                                                                                                    3001
                                                                                                                                                                                                                                                                                                                                                                3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAD11592,
```

유

ò 셤 ò 윰

음 ઠે ద ò

8

ö

Page 7

셤

ઠ

8 6 8 6 8 6 8 6

a

à

셤

ò

g

8 6

8 6 6 6

8 6 6 6

6 6 6 6 6 6

g ,

ઠે

셤

ઠ

```
Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
                                                                                                                                                                                                                                                                                                                                                                                                 /Erans1 except= (pos:3046, .3048, aa:Ser)
/note= "CDS does not include start and stop codon"
/partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= e
/bound moiety= "F2-f primer"
/*tag= f
/bound_moiety= "F3-b1 primer"
/*tag= 3931
/*tag= 9
/bound_moiety= "F3-b2 primer"
/*tag= 9
/bound_moiety= "F3-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  *tag= b
bound moiety= "F1-f2 primer"
770. 2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    *tag= 1
bound_moiety= "F4-f1 primer"
076. 3141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            *tag= c
bound_moiety= "F1-f1 primer"
824. .2889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            *tag= h
bound_moiety= "F4-f2 primer"
022. _3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag= d
/bound_moiety= "F2-b primer"
8867. .2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "F6-b1 primer'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                *tag= j
bound_moiety= "F5-b primer"
119. 3192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              '*tag= k
'bound_moiety= "F5-f primer"
168. 3225
                                                                                                                                                                       Partial sequence of pMal-m4 and ZFPm4 DNA
                                                                                                                                                                                                                                                                                                                                                                             product= "ZFPm4 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dalmia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             *tag= 1
bound_moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Barbas CF, Stege JT, Guan X,
                                                 AAD11591 standard; DNA; 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-JAN-2001; 2001WO-US001817.
                                                                                                                                                                                                                                                                                                                                         :/19. .3270
*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 740. .2790
                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200152620-A2
                                                                                                                                                                                                                                                                          Inidentified
                                                                                                                                 24-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-JUL-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 primer_bind
                                                                                        AAD11591;
      RESULT 4
                                               N X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X 
      2280
                                                                                      2340
                                                                                                                            2340
                                                                                                                                                                   2400
                                                                                                                                                                                                                                                       2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2760
                                                                                                                                                                                    TIGGCGAAAGAICCACGIATIGCCGCCACAIGGAAAACGCCCAGAAAGGIGAAATCAIG 2520
                                                                                                                                                                                                                                                                                                                                                        2461 TIGGCGAAAGATCCACGTATTGCCGCCACATGGAAAAGGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                             CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2761 CCGGAATGTGGTAAGTCCTTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGGGCGCCACCAGCGTACCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGTCTTTCTCTCGGTCTGACAATCTCGGTCCGGCACGTACTCACACGGGGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2941 AAGTCTTTCAGCCAGTCCAGCAACCTGGTGCGCCACCAACGTACTCACACCGGGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC 3240
                                                                                                                                                             CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGGTGATGAAGGTCTG
GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                GAAGCGGTTAATAAAGACAAAACGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                         2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                         2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCCGTGATCAACGCC
                                                                                                                          AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACAACAACAATAACAATAACAACAACCTCGGGATGGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2701 GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2821 ACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2641 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGATCCTCTTCCTCTGTGGCCCCAGGCGCCCTCGAGCCCGGGGAGAAGCCCTATGTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGCCGGCCACCTGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                      2281
                                                                                                                                                                                                          2341
                                                                                                                                                                                                                                              2401
                                                                                 2281
                                                                                                                                                               2341
                                                                                                                                                                                                                                                                                       2401
                                                                                                                                                                                                                                                                                                                                2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2641
2221
                                                                                                                                                                                                                                                                                                                                                                                                                2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3181
```

σ

Wed

2001-465325/50 P-PSDB; AAE06004

the New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of Example 4; Page 145-147; 156pp; English target gene

The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (EPP) which is capable of specifically binding to a target mucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target mucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m4 and ZFPPm4 DNA

T; 0 U; 0 Other; Sequence 3300 BP; 849 A; 865 C; 880 G; 706

g

8 6 ઠે ያ ያ

8

120 120 180 180 240 240 300 300 360 360 420 420 480 480 540 540 909 900 99 9 9 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG CGCGGGGAAAAAGTGGAAAGGGGGGATGGGGGGGGTGAATTACATTCCCAACGGGTGGCAC AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC TGGTGTCTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG **AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC** TGGTGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC DB 4; Length 3300; ö Indels 53; Score 3215.2; I Fred. No. 0; Mismatches 97.4%; Best Local Similarity 98.4 Matches 3247; Conservative н 121 241 481 541 181 301 361 361 421 541 601 Query Match 61 61 121 181 241 301 421 481

8 & 8

ò g ò 8 8

중 음

g

a ò

8

1740

1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTGTGGGCACACGACCGCTTTGGTGGCTAC

q

1320 1380 1440 1560 1620 1620 1680 1020 1080 1080 1200 1200 1260 1260 1320 1380 1500 1500 1560 1680 1020 780 780 840 840 900 900 960 960 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAAAACCACCCGGCGCGCAATA GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA CGCAAACCGCCTCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG rcaegcaeccarcegaagcreregraregcrerecaegreeraaarcacrecaraarree TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT **ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT** GCGGCAACTGGCGCTTGACATTATCTTGGGCACGACGGCTTTGGTGGCTAC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA recececcarracceaercceecrececrirecreceerarerceerrecerates ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACAGGTTT TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTTGCGCCGACATCATAACGGTT CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1561 1441 1561 1681 1021 1141 1261 1261 1321 1381 1501 1621 901 1021 1081 1081 1141 1201 1201 1321 1381 1441 1501 721 721 781 781 841 961 961 661 901 g a g g 셤 g 8 8 ò 엄 Š 6 B 6 셤 ò ద ò В 8 g à g ઠ 음 8 엄 ⋧ ò g ò ò ò ò ⋧

Wed

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 960
                                                                                     300
                                                                                                                     300
                                                                                                                                                    360
                                                                                                                                                                                  360
                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                      CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                    TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGAGGGCATCGTTCCCACTGCGATGCTGCTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCGCGCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCTGCTGGGCCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                       CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGGGTGGCAC
                                                                                     AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                     ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                      TGGTGGTGTCGATGGTAGAACGAAGCGCCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                  Treregedargedreargegerearcarraacraregeregargaccaggargeea
                                                                                                                                                                                                                                                                                                                                                                                   rrecretedaagcreccrecacratratrecceccritarricricarerecreacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGCCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                      181
                                                                                     241
                                                                                                                     241
                                                                                                                                                     301
                                                                                                                                                                                  301
                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                          ે
                                                                                                           QQ
                                                                                                                                                  ò
                                                                                                                                                                          g
                                                                                                                                                                                                               8
                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                             Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ETP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the Partial sequence of pMal-m3 and ZFPm3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGACACCATGGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 3300 BP; 845 A; 878 C; 877 G; 700 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                58; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 4;
                       primer"
                                                                    "F4-f1 primer"
                                                                                                                                                                                                                   "F6-bl primer"
                                                                                                                                                                                                                                                                 bound moiety= "F6-b2 primer"
                                                                                                                   "F5-b primer"
                                                                                                                                                                     "F5-f primer'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 3207.2;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 4; Page 143-145; 156pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dalmia
                      "F4-£2
                                                                                                                                                                                                                                                                                                                                                                                                                                                  (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
/*tag= n
/bound_moiety= "
1022. .3102
                                                                                                                                                                                                  /*tag= 1
/bound_moiety= "
3205. .3273
/*tag= m
                                                                    bound_moiety=
1076. .3141
                                                                                                                   moiety=
                                                                                                                                                                 bound_moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                  21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97.2%;
98.2%;
                                                                                                                                                                                                                                                                                                                                                                  19-JAN-2001; 2001WO-US001817
                                                                                                                   bound moiet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 98.2
Matches 3242; Conservative
                                                                                                                                                     *tag=
                                                      *tag=
                                                                                                      *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-465325/50.
P-PSDB; AAE06003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                 WO200152620-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   target gene.
                                                                                                                               primer_bind
                                   primer_bind
                                                                                   primer_bind
                                                                                                                                                                                  primer_bind
                                                                                                                                                                                                                                  primer_bind
                                                                                                                                                                                                                                                                                                                                   26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Barbas CF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
```

g

8

g

ઠે

셤

ò

	2641 AACAACAACAATAACAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 270 2641 AACACAACAACAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 270 2641 AACACAACAACAACAACAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 270 2701 GGATCCTCTCTCTCTCGGCGCGCCCTCGAGCCCGGGGAAGCCCTATGCTTGT 276 2701 GGATCCTCTTCTCTCTCTCAGGCGCCCTCGAGCCCGGGGAAGCCCTATGCTTGT 276 2701 GGATCCTCTTCTCTCTCAGGCGCCCTCGAGCCCCAGGGGAAGCCCTATGCTTGT 276 2761 CCGGAATGTGGTAAGTCCTTCTCAGGCCCTCGTGGCGCACCAGCGGTACCCAC 282 2761 CCGGAATGTGGTAAATGCCCAGGGGCCCTGGCCACCAGCGGTACCCAC 282 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGGCGAATCTTTTAGCCAGCAGCGGGCCC 288 2881 CTGGTGGCCATCAAAATGCCCAGAGTGCGGAAATCTTTTAGCACAGGGGCTCC 288 2881 CTGGTGGCCATCAAAATGCCCAGAGTGCGGAAATCTTTTAGCACAGGGGCTCC 289 2881 CTGGTGGCCATCAAAATGCCCAGAGAAAGCCATACAAATGTCCAGAAATGTGGC 294	2941 2941 3901 3001 3061 3061 3121	3181 3181 3241 3241 ; 6 881 AAH25681 15-SEP-20
8 8 8 8 8 8 8 8	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8 6 8 6 8 6 8 6 8	Oy Oy Oy Db Db Db Db XX XX AAH256 DD D XX XX XX AC XX XX XX XX XX XX XX XX XX XX XX XX XX
1320 1320 1380 1380 1440 1500 1500	1560 1620 1620 1680 1740 1740 1800	1920 1920 1920 1980 2040 2100	2160 2160 2220 2220 2280 2280 2340 2340
TCAGGCAGCCATCGGAAGCTGTGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1: TCAGGCAGCCATCGGAAGCTGTGTATTGCTGCAGGTCGTAAATCACTGCATAATTCG 1: TCAGGCAGCCATCGGAAGCTGTGTATTGTGTTTTTTTCGCCCACACATCATAATTCG 1: TGTCGCTCAAGGCGCACTCCCGTTCTGATAATGTTTTTTTT	TCTGG AAGAT AAGAT AAGAT AAGAT AGGTT	CTGTT GGGAA GGGAA GGAG GGA	ATTAC ATTAC COTGG COTGG COTGG COTGG COTGG COTGC COTGC COTGG COTGC COTGG COTGG COTGG COTGC COTGC COTG COTG

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACTTCACCAACAAGGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560
                   480
                                                                               540
                                                                                                             900
                                                                                                                                          900
                                                                                                                                                                         99
                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    960
                                                540
                                                                                                                                                                                                      9
                                                                                                          CACCCATCAACAGTATTATTTTCTCCCATGAACAGGTACGCGACTGGGCGTGGAGCATC
CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCGGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                  TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTGGCTTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                    CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAAACCATGCAAAAGCTGA
                                                                                                                                                                                                                                                                                                                                                                            ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGACGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGACGGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCACAATICTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCCAGTCCGTTTAGGTGTTTTCACGA
                                                TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                       TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGAGTGCCATGTTCCAGCTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                              ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                          TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                               481
                                                                                                             541
                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                  199
                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1501
                                                481
                                                                                                                                         541
                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1441
                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                961
                                                                   g y
                                                                                                                                    셤
                                                                                                                                                                                            g
                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                       8 6
                                                                                                                                                                                                                                                                                                                                                       중 음
                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                             8
                                                                                                                                                                      8
                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   The present sequence encodes human Cdc25C phosphatase, and was expressed in Escherichia coli. It is used to make fusion proteins with Escherichia coli maltose binding protein (MBP). The specification describes fusion proteins of MBP and one of Cdc 25B1, 25B2, 25B3 and 25C. Cdc phosphatases are involved in activation of cyclin-dependent kinases (CDK) that control cell division. The fusion proteins are used to identify modulators of the specified human Cdc phosphatases, potentially useful for regulation of cell division. They are also for studying physiological or physiopathological activities of Cdc phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
            ltose binding protein; MBP; Cdc25C phosphatase;
Cdc25B3; cyclin-dependent kinase; CDK; cell division;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGCGGAGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCCCCTCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGGTGTTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTGGTGTTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                         fusion protein of maltose-binding protein and Cdc phosphatase, us identifying phosphatase modulators for regulating the cell cycle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 4; Length 8101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
82.0%; Score 2705.8;
Best Local Similarity 99.9%; Pred. No. 0;
Matches 2707; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                Prevost
                                                                                                                                                                                                                                                                (SCRC ) SCRAS SOC CONSEILS RECH & APPL
                                                                                                                                                                                                                                                                                               Ducommun B,
                                                                                                                                                                                                                                                                                                                                                                                                      Claim 7; Page 9-13; 56pp; French.
                                                                                                                                                                                                14-DEC-1999; 99FR-00015722.
30-MAY-2000; 2000FR-00006883.
21-SEP-2000; 2000FR-00012008.
                                                                                                                                                                    13-DEC-2000; 2000WO-FR003496
                maltose
                                                                                                                                                                                                                                                                                             Goubin-Gramatica F,
                                                                                                                                                                                                                                                                                                                            WPI; 2001-398152/42
                protein; me; Cdc25B2;
                                                                                                          WO200144467-A2
                                                                           Homo sapiens.
                                                                                                                                     21-JUN-2001
              Fusion pro
Cdc2581;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                           New
```

임

6 B 6

6 ይ

Š

g

8 8

ò

g

셤

ઠે

Š

음

셤

ò

셤

ò

셤

ઠે

8 8 8

8 8

요

Q

ò

요

8 6 8 6 8 6 8 6

셤

र्व क्षे

õ

셤

중 음

8 8

ò

```
2641 AACAACAACAATAACAATAACAACACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                         AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                         Cdc25C phosphatase, amine; Cdc25 phosphatase; spontaneous alopecia; alopecia; proliferative disease; parasitic disease; viral infection; neurodegenerative disease; myopathy; anglogenesis; psoriasis; restenosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence represents pMAL-HSCdC35C, a plasmid encoding human Cdc25C phosphatase. The specification describes the use of arylbubstituted secondary or tertiary amines for the production of medicaments for inhibiting Cdc25 phosphatases, especially Cdc25C phosphatases. The amines of the invention are used for treating spontaneous alopecia or alopecia induced by exogenous products or radiation. They are also used for treating tumoural or non-tumoural proliferative diseases, parasitic diseases, viral infections, neurodegenerative diseases or myopathy. Examples of non-tumoural proliferative diseases are e.g. angiogenesis, psoriasis or restenosis. The amines are also useful for inhibiting the proliferation of microorganisms (especially yeasts) and in the treatment of all disorders conventionally treated with vitamin K or its derivatives
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cdc25 Phosphatase inhibiting medicaments, useful e.g. for treating tumor diseases, viral infections, neurodegenerative disease or alopecia, containing new or known aryl-substituted amines.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= b
/note= "encodes maltose binding protein (MBP)"
2713. 4134
/*tag= a
/note= "ORF of human Cdc25C"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Goubin GF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thurieau C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SCRC ) SCRAS SOC CONSEILS RECH & APPL SCI.
                                                                                                                                                                                                                                                                                                                                         Nucleotide sequence of pMAL-Hs Cdc25C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Galcera CMO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 18-22; 39pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
1528. .2677
                                                                                                                                                                                                                               BP
                                                                                                                                                                                                                               8101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-JUL-2000; 2000FR-00009900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-JUL-2000; 2000FR-00009900
                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Brezak PMC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-166066/22.
                                                                                                                           GGATCCTCT
                                                                                                                                                                                                                             ABL53238 standard;
                                                                                                GGATCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                 vitamin K; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FR2812198-A1
                                                                                                                                                                                                                                                                                                    17-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ducommun B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic
                         2641
                                                                                                2701
                                                                                                                                  2701
                                                                                                                                                                                                                                                                 ABL53238;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Prevost
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                            ABL53238
                                                                                                                                                                                          RESULT
                                                  쉽
                                                                                            ò
                                                                                                                       셤
                                                                                                                                                                                                                                              1740
                                                                                                                                                                                                                                                                1800
                                                                                                                                                                                                                                                                                                    1800
                                                                                                                                                                                                                                                                                                                                       1860
                                                                                                                                                                                                                                                                                                                                                                                                              1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2340
                                                                                                                                                                                                                                                                                                                                                                                                                             1861 GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAAACT1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2580
GCACTTCACCAACAAGGACCATAGATTATGAAAATCGAAGAAGGTAAACTGGTAATCTGG 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGITTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                  ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTTCGAGAAATTCGAGAAAGA
                                                               1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                           ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                               1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                   GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                        GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GICTGACCTTCCTGGTTGACCTGATTAAAACAACACATGAATGCAGACACCACGATTAC
                                                                                                                                                                                                                     dedechactidedeardecectidacarraretricredecacacacedecerraregreerae
                                                                                                                                                                                                                                                          GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                              GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATGAAACGCCAAGTACGACATTAAAGACGTGGGCTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCCGTGCTATACACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
1501
                                  1561
                                                                                                           1621
                                                                                                                                                                                                                     1691
                                                                                                                                                                                                                                                                                                                                                                      1801
                                                                                                                                                                                                                                                                                                                                                                                                        1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2041
                                                                                                                                                                                   1681
                                                                                                                                                                                                                                                          1741
                                                                                                                                                                                                                                                                                              1741
                                                                                                                                                                                                                                                                                                                                 1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2581
```

```
Patel CB,
  Maine GT,
                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
  g
                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  유
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                  2280
                                                                                    2340
                                                                                                                    2400
                                                                                                                                                                                                                                                                                         2700
                                                                                                                              2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                     CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTCATCAACGCC 2580
                                                                                                                                                                                                                                                       GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640
                                                                                                                                                                                                                                                                  2581 GCCAGCGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640
                                                                                                                                                                                                                                                                                                 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGGATTAC 2160
                                                                                                                                                    GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                    TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                     2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                      2521 ccGAAcArcccccAGAGArcrccGCrrrcrGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580
                                                           AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCAGC
                                                                                                                  TCCATCGCAGAAGCTGCCTTTAATAAAGGGAAAACAGGGGATGACCATCAACGGCCCGTGG
                                                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                       2641 AACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA encoding MBP-ToxoP30del8(82-294aa) fusion protein
                                                                                                                                                                                                                                                                                                                                                                                  ADO23608 standard; DNA; 7259 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-OCT-2002, 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                         GGATCCTCT 2709
                                                                                                                                                                                                                                                                                                                                        GGATCCTCT 2709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US2004067239-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               38-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUL-2004
                                                                                  2281
                                                                                                  2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
                                2161
                                                2221
                                                                 2221
                                                                                                                   2341
                                                                                                                                                                                                                                                       2581
                2161
                                                                                                                                                                                     2461
                                                                                                                                                                                                                                                                                                                                        2701
2101
                                                                                                                                                    2401
                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                         2701
                                                                                                                                                                                                                                                                                                                                                                                                  AD023608
                                                                                                                                                                                                                                                                                                                                                                유
                                           ò
                                                             요
                                                                                ò
                                                                                             8
                                                                                                             ò
                                                                                                                                g
                                                                                                                                                                요
                                                                                                                                                                                                   용
                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                    g
               ઠે
                                                                                                                                                 ò
                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                    a
```

```
The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30de13C(52-300aa), MBP-TOXO30de14C(52-294aa) and MBP-TOXO30MIX1 fusion proteins. (1) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (1) and detecting the presence of (1)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-TOXOP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                   Novel purified polypeptide having sequence identity to amino acid sequence of F93 antigen of Toxoplasma gondii e.g. Toxo30de13C, Toxo30de12C, Toxo930 MIXI, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGGGGAAAAAGTGGGGGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGCGCCGTCGCAAATTGTCGCGGGCGATTAAATCTCGCGCCGATCAACTGGGGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCTGCTCGATGCTAGAACGAGCGCCTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Grcaaticagggggaggaggaaaccagraacgrraragargrcgaagagarargccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81.5%; Score 2690.4; DB 12; Length 7259; 99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 7259 BP; 1870 A; 1822 C; 1926 G; 1641 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6; Indels
   TR;
Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                              Example 2; Fig 22; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 99.8
Matches 2694; Conservative
                                                             2004-304563/28
```

ö

1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC 1740	OY 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 1741 GCTCAATCTGGCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800	QY 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGT 1860	OY 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC	OY 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040	OY 2041 TATGAAAACGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100	OY 2101 GGTCTGACCTTCCTGGTTGACTGATAAAACAAACAATGAATG	2161 TCCATCGCAGAAGCTGCCTTTAATAAGGCGAAACAGGGTGATCAACGGCCCGTGG [Oy 2221 GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	OY 2281 AAGGGTCAACCATCCAAACCGTGGGGGGGGGGGGGGGGG	OY 2341 CCGAACAAAGAGTTGCTACGAAAACTATCTGCTGACTGATGAAGGTCTG 2400 DD 2341 CCGAACAAGAGTTGCGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	OY 2401 GAAGGGGTTAATAAAGACAAACCGCTGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	OY 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAAGGTCGAAAAGGTGAAATCATG 2520	Oy 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	2581 GCCAGCGGTCGTCAGATGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2581 GCCAGCGGTCGTCGATGACGTTCGATGAAGACGCGCAGACTAATTCGAGCTCG	Oy 2641 AACAACAACAATAACAATAACAACAACCGGGATCGAGGGAAGGATTCAGAATTC 2700 	RESULT 9 AD023613 ID AD023613 standard; DNA; 7322 BP. XX AC AD023613;
601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660	CGCGTCTGCGTCTGGCTGGCTTGGCATAAATATCTCGCAATCAAATTCAGCCGATAG 720	CGGAACGGGAAGGCGACTGGAGTGCCATCTTTCAACAAACCATGCAGATGCTGA 780 CGGAACGGGAACGCGACTGGAGTGCCCATGTTTTCAACAAACCATGCAGA 780 CGGAACGGAAAGGCGAACGCAACAATGCTGA 780	ATGAGGGCATCCATCCACTGCATGCTGCCACGTTGCACGTGGCCTGGCGCA 840	TGGGGGCGATTACCGGGTCCGGGCTGCGCGTGCGGATATCTCGGTAGTGGGATACG 900	096	GCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTGAGGGCCAGGCGGTGA 1020 		CGCAAACGGCCTCTCCCGGGGGTTGGTTGATTAATGCAGCTGGCACGACAGGTTT 1140	CCCGACTGGAAAGCGGGAGTGAGCGCAATTAATGTGAGTTAGCTCACTCA	GCACATTCTCATGTTTCACAGCTTATCATCGACGGGGGGGG	TCAGGCAGCCATCGGAAGCTGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320	TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 	CTGGCAAATATTCTGAAATGAGCTGTTGACAATAATCATCGGCTCGTATAATGTGTGGA 1440	ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCGTTTAGGTGTTTTCACGA 1500	GCACTTCACCAACAAGGACCATAGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560 	1620	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680

420 420 480

900 9 9 9 720 720 780 780 840 840 900 900 960 960

```
241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC 300
                                                                                                                                   Accedencercechaningresessarinaarchesessessareacresersesses 360
                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGGGCACCAATGCTTCTGGGG
        AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                           ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                           TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cccdactecaaacccccaccccaaccccaartraarcraactractcarrad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                    TIGCIGIGGAAGCIGCCIGCACTAAIGITCCGGCGITATITCTTGATGTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                            TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTCGCATTAGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGAACGGGAAGGCGACTGGCGATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841 TGCGCGCCATTACCGAGTCCGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTGCTGGGGAAACCAGGGTGGACGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081 GCAAACCGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                           301
                                                                                                                                301
                                                                                                                                                                             361
                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1261
                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1261
                                                                                      ઠે
                                                                                                                     셤
                                                                                                                                                                ò
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                               $ A
                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 & B &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIXI sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in amino acid sequence of Toxo30del3C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence conversing the amino acid sequence chosen from MBP-Toxo30del3C(52-300aa), MBP-Toxo30del4C(55-294aa) and MBP-Toxo30miXI fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAGTGGAAGCGGCGATGGCGGGGGTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo330del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGATGATAGCGCCCGGAAGAGA
                                                                                P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGACACCATCGAATGGTGCAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GIGICICITATCAGACCGITTCCCGCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Grenchtarcasaccerricececereaaccaseccasecracerrices
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81.5%; Score 2690.4; DB 12; Length 7322; 99.8%; Pred. No. 0; ative 0; Mismatches 6; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 7322 BP; 1887 A; 1844 C; 1934 G; 1657 T; 0 U; 0 Other;
                                        DNA encoding MBP-ToxoP30del10(52-284aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 2; Fig 25; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antibodies to Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                     02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                             02-OCT-2002, 2002US-00263153
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                  Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB; ADO23614.
                                                                                                                                                                                                                                  US2004067239-A1.
                                                                                                                                                                                                                                                                             08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Simi
Matches 2694;
                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Maine
```

1020

1200

유 ठे 용 8 & à

Wed

g

6 6 6

g

දු දු

686866

```
2580
                                                                                                                                                                                                 2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the with alanine, or comprising the amino acid sequence in with alanine, or comprising the amino acid sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C(52-300aa), MBP-Toxo30del4C(52-294aa) and MBP-Toxo30MIX1 fusion proteins. (1) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies
                                                                                                                                                                                                                                                                      2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                                                                                                                    GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                            CCGAACATCCCGCAGATGTCCGCTTTCTCGGTATGCCGTGCGTACTCGCGGTGATCAACGCC
                                                                                                                                                                                                                                  2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCCGCAGACTAATTCGAGCTCG
                                                       TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                            GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; da; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA encoding MBP-ToxoP30del4C(52-294aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 2; Fig 19; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                AD023603 standard; DNA; 7352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P-PSDB; ADO23604.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                         2461
                                                                                                                                                                                                                                                                      2641
                                                                                                                                                                                                                                                                                                                                                                                                                                    AD023603;
                      2401
                                                       2461
                                                                                                                          2521
                                                                                                                                                              2521
                                                                                                                                                                                                 2581
                                                                                                                                                                                                                                                                                                                                                               RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                 AD023603
                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                     ò
                                                                               g
                                                                                                                        ò
                                                                                                                                                      유
                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2400
                                                                                                                                                                                                                                                                                                                                                                                                1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2340
                                                                                                                                                                                                                                                     1560
                                                                                                                                                                                                                                                                                        1620
                                                                                                                                                                                                                                                                                                                            1620
                                                                                                                                                                                                                                                                                                                                                               1680
                                                                                                                                                                                                                                                                                                                                                                                                                                    1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                           CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                           ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                           GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGCGAAAGGCGCGCCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGGCTAACGCTGGCGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                              GCACTTCACCAACAAGGACCATAGGAAAATCGAAGAAGGTAAACTGGTAAATCTGG
                                                                                                                                                                                                                                                                                        ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGCCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGACGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGGGTCAACCATCCAAACCGTTCGTTGGTGGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTCGCTCAAGGCGCACTCCCGTTCTGGATATGTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                             ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2341
                                                                                                        1381
                                                                                                                                                                              1441
                                                                                                                                                                                                                                                                                                                                                           1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2221
                                                                                                                                           1441
                                                                                                                                                                                                                                                                                      1561
                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                                                                1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2221
                                     1321
                                                                                                                                                                                                                                                   1501
                                                                                                                                                                                                                                                                                                                                                                                                                                    1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1981
                                                                        1381
                                                                                                                                                                                                                1501
```

g

8 8 8

8 6 8

g

ò

요

ò

셤

ઠે

ò

6 6 6 6

g

g

ò

ઠે

· rng

```
CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                    GCACAAITCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                  TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                     GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                         GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCAATGCTTCTGGCG
                                                                                                                                                                       TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                             GGGGCAACTGGCGATGGCCTGACATTATCTTCTGGGCACACGACGCTTTGGTGGCTAC
                                                                                                                                                                                                                                     CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                    ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                             GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                    GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                  ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                              ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCTGCAGAACCCGCCAAAAACCTGGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTTATGCGTTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGGGGGGGTTATGCGTTCAAG
                                                          1021
                                                                                                                        1141
                           961
                                           1021
                                                                                         1081
                                                                                                          1141
                                                                                                                                        1201
                                                                                                                                                       1201
                                                                                                                                                                       1261
                                                                                                                                                                                      1261
                                                                                                                                                                                                       1321
                                                                                                                                                                                                                      1321
                                                                                                                                                                                                                                                    1381
                                                                                                                                                                                                                                                                     1441
                                                                                                                                                                                                                                                                                    1441
                                                                                                                                                                                                                                                                                                    1501
                                                                                                                                                                                                                                                                                                                   1501
                                                                                                                                                                                                                                                                                                                                                                                1621
                                                                                                                                                                                                                                                                                                                                                                                                                                              1741
                                                                          1081
                                                                                                                                                                                                                                      1381
                                                                                                                                                                                                                                                                                                                                   1561
                                                                                                                                                                                                                                                                                                                                                  1561
                                                                                                                                                                                                                                                                                                                                                                 1621
                                                                                                                                                                                                                                                                                                                                                                                                1681
                                                                                                                                                                                                                                                                                                                                                                                                                1681
                                                                                                                                                                                                                                                                                                                                                                                                                               1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1981
           8 6
                                        B 5
                                                                     8 6
                                                                                                     ò
                                                                                                                  원
장
                                                                                                                                                   9
9
9
                                                                                                                                                                                                8 6 8 6 8 6 8 6
                                                                                                                                                                                                                                                                                                                                                            8 6 8 6
                                                                                                                                                                                                                                                                                                                                                                                                                              $ B $
                                                                 ò
                                                                                                               120
                                                                                                                              120
                                                                                                                                               180
                                                                                                                                                               180
                                                                                                                                                                               240
                                                                                                                                                                                             240
                                                                                                                                                                                                             300
                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                       999
                                                                                                                                                                                                                                                                                                                                                                                                                      099
                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 960
                                                                                9
                                                                                               9
                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                            GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                           CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                    AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                     AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                         TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGCTGCAAATC
                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACATC
                                                                                                                                                                                                                                                                                                                                                                              CGCGTCTGCGTCTGGCTGGCATAAATATCTCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
  presence of
DNA encoding
                                                Length 7352;
                              Sequence 7352 BP; 1896 A; 1852 C; 1943 G; 1661 T; 0 U; 0 Other;
                                                               .
0
                                                               6; Indels
 composition comprising (I) and detecting the / complexes. The present sequence represents fusion protein of the invention.
                                               DB 12;
                                              ; Score 2690.4;
; Pred. No. 0;
0; Mismatches
with a composition comprising (I) and
                                              81.5%;
sst Local Similarity 99.8%;
tches 2694; Conservative
                                                                                                             61
                                                                                                                           61
                                                                                                                                            121
                                                                                                                                                                           181
                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                          241
                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
               ToxoP30
                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              106
SSSSS
                                                                             8 6
                                                                                                       8 6 6 6
                                                                                                                                                                    8 8 8 8 8 8
                                                                                                                                                                                                                                                                                   8 6 8
                                                                                                                                                                                                                                                                                                                                8 6 8 6 8 6 8 6 8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            666666
```

 g

요

g

ሯ

8 8 ò 셤 ઠે

ઠે

a

ò

g

ò g ò 셤 ઠે g 8 g

ઠે

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de12C and ToxO930 MXXI sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of ToxO30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of ToxO30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-TOxO30de13C(52-300aa), MBP-TOxO30de14C(52-294aa) and MBP-TOXO30MIXI fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The presence represents DNA encoding a MBP-TOXOP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                          Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30de13C, Toxo30de12C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGACACCATCGAATGCTCCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Grcaarrcagggrgaargrgaaaccagraacgrraracgargrcgcagagrargccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGTCTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 12; Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 7370 BP; 1901 A; 1855 C; 1949 G; 1665 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6; Indels
                              Bliese TR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81.5%; Score 2690.4;
99.8%; Pred. No. 0;
ive 0; Mismatches
                              Ginsburg SR,
                                                                                                                                                                                           Example 2; Fig 15; 114pp; English
                                                                                                                                                           antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 99.8 Matches 2694; Conservative
                              Patel CB,
                                                            WPI; 2004-304563/28.
P-PSDB; ADO23599.
(BLIE/) BLIESE T R.
                                Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2700
 2100
                                                              2160
                                                                                              2160
                                                                                                                              2220
                                                                                                                                                                                                                           2280
                                                                                                                                                                                                                                                           2340
                                                                                                                                                                                                                                                                                           2340
                                                                                                                                                                                                                                                                                                                           2400
                                                                                                                                                                                                                                                                                                                                                          2400
                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2641 AACAACAACAATAACAATAACAAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                            2401 GAAGCGGTTAATAAAGACAAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACAACAACAACAATAACAATAACAACCACCGGGATCGAGGGGAAGGATTTCAGAATTC
TATGAAAACGCCAAGTACGACATTAAAGACGTGGCCGTGGATAACGCTGGCGCGAAAGCG
                  TATGAAAAACGGCAAGTACGACATTAAAAGACGTGGGCGTGGATAACGCTGGCGCAAAAGCG
                                                                               GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                            AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGCTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                            GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2581 GCCAGCGTCGTCACAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                             2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                             GCATGGTCCAACATCGACACAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                           AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                           TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                              GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACACATGAATGCAGACACCGATTAC
                                                                                                                              TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA encoding MBP-ToxoP30del3C(52-300aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ВЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADO23598 standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-OCT-2002; 2002US-00263153.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                           2281
                                                                                                                                                                                                                                                           2281
                                                                                                                                                                                                                                                                                                                           2341
                                                                                                                                                                                                                                                                                                                                                                                          2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2641
                                2041
                                                                                                                             2161
                                                                                                                                                                                           2221
                                                                                                                                                                                                                           2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2521
                                                              2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AD023598
```

ö

Qy 1681 GCGGCAACTGGCGATGACATTATCTTCTGGGCACCGACCG	GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 192	1981 1981 2041		Oy 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCGTGG 2220 Db 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCGTGG 2220 Qy 2221 GCATGGCCGACATCGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTC 2280	2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2281 AAGGGTCAACCATCCAAACGGTTGGGGGTGTGAGGGTATTAACGCCGCCAGT 2281 AAGGGTCAACCATCCAAACGGTTCGTTGGCGTGCTGAGGGAGG	0 0 0	DD 2401 GAAGCGGTTAATAAAGACAAACCGGTGGGGCGGTGAAGTCTTACGAGAAAAG 2460 QY 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAAGGCCCAGAAAGGTGAAATCATG 2520 DD 2461 TTGGCGAAAGATCCACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	CGAACATCCGGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 258	2581 GCCAGCGGTCAGACTGTCGATGAGGCCTGAAAGGCGCGCAGACTAATTCGAGGTCG 264 2581 GCCAGCGGTCAGACTGATCGATGAAGCCCTGAAAAGCGCGCAGACTAATTCGAGCTCG 264	VY 2641 AACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTCGGAATTC 2700 	RESULT 12 ADO23639 ID ADO23639 standard; DNA; 7370 BP.
CACCCATCAACAGTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 600 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCTTTAAGTTCTGTCTCGG 660		3ATACG 900 ATTTTC 960 ATTTTC 960		CGCAAACCGCCTCTCCCCGCGCGTTGGTTCATTAATGCAGCTGGCACGCGTTT 1140 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGCTTT 1140 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGTTT 1140		ATTCG 1320 ATTCG 1320 CGGTT 1380	1321 TGTCGCTCAAGGCGCACTCCGGTTAATGTTTTTGCGCCGACATCATAACGGTT 1380 1381 CTGGCAAATATCTGAAATGAGCTGTTGACAATAATCATCGCTGTGAAATGAGGGT 1440 CGTGCAAAATATCTGAAATGAGCTGTTGAAATAATCATCGCTCGTATAATGTGGA 1440 1381 CTGGCAAATATTCTGAAATGAGCTGTTGAAATAATCATCGGCTCGTATAATGTGTGGA 1440	ATTGTGAGCGGATAACAATTTCACACACACACACCCAGTCCGTTTAGGTGTTTTCACGA 1500	1501 GCACTTCACCAACAAGGACCATAGATATGAAAACTGAAGAGGTAAACTGGTAATCTGG 1560 	1561 ATTAACGGGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAAATTCCCACAGGTT 1680

```
TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCGCCGTCGCAAATGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTCGAGCG
                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGAACGGGAAGGCGACTGGCGTGTCCGGTTTTCAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGGGGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               recececcarracceaerceeecreecerrecreeceanarcreeragearace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGATACCGGAGACAGCTCATGTTATATCCCGCCGTTAAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
AACAACTGGCGGCGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                    TGGTGGTGTCGATGGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGGTGCACAATC
                                                                                                                                                               TTCTCGCGCGAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                     TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                        CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cecercrecercreecreecreecaraaararcreacreecarcaaarreaceaarae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cegaaceegaacecactegacteccatetcectrircaacaaaccatecaarectea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                     301
                                                                                                         301
                                                                                                                                            361
                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                        名 장
                                                                                                   용
                                                                                                                                          ò
                                                                                                                                                                     g
                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in amino acid sequence of Toxo30de13C P30 antigen sequence is substituted amino acid sequence of Toxo30de13C P30 antigen sequence is substituted to Toxo30de13C(52-294aa) and MBP-Toxo30MIX1 fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of [I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-TOXOP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel purified polypeptide having sequence identity to amino acid sequence of F930 antigen of Toxoplasma gondii e.g. Toxo30de13C, Toxo30de12C, Toxo2930 MIXI, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Grercritarcadaccerricececeregreadecadeceaeceaecratrereceaaaa
                                                                   P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 12; Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 7370 BP; 1900 A; 1856 C; 1950 G; 1664 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                    Bliese TR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81.5%; Score 2690.4; 99.8%; Pred. No. 0;
                                   MBP-ToxoP30MIX1 fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                     Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 5; Fig 31; 114pp; English
                                                                                                                                                                                                                                                                    02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                        02-OCT-2002; 2002US-00263153
 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 99.8 Matches 2694; Conservative
                                                                                                                                                                                                                                                                                                                                           MAINE G T.
PATEL C B.
GINSBURG S R.
BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-304563/28.
P-PSDB; ADO23640.
                                                                                                                                            Toxoplasma gondii.
                                                                                                                                                                                                 US2004067239-A1.
                                 DNA encoding
 01-JUL-2004
                                                                                                                                                                                                                                    08-APR-2004
                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                             (MAIN/)
                                                                                                                                                                                                                                                                                                                                                            (PATE/)
(GINS/)
                                                                                                                                                                                                                                                                                                                                                                                                (BLIE/)
```

720

720

780

780

840 840 900 900 960 1020

960

1140

1200 1200

g

ò

8

g

ò

8 8

1080 1080

1020

8 & 8

승 음

õ

6 8

8 8 8

දු දු

8 6 8 6 8 6 8 6

상 원

ठ हे ठ

8 8 8

```
GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640
                                                                                                                                                                                                                                                                                                                                                                                                                                              2641 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGAATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alamine, or comprising the amino acid sequence chosen from MBP-Toxo30de13C(52-300aa), MBP-Toxo30de14C(52-294aa) and MBP-ToxO30MIX1 fusion proteins. (I) is useful for detecting the presence of IgM
                                                                  2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAAGGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                         CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                  2641 AACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                           ccanacarccecasarsrccscrrrcrssrarsccsrscsrscssssssarcancec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         띥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA encoding MBP-ToxoP30MIX5 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 5; Fig 35; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ginsburg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MAINE G T.
PATEL C B.
GINSBURG S R.
BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2004-304563/28.
P-PSDB; ADO23650.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Toxoplasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic.
                                                                                                                                   2461
                                                                                                                                                                               2461
                                                                                                                                                                                                                            2521
                                                                                                                                                                                                                                                                        2521
                                                                                                                                                                                                                                                                                                                       2581
                                                                                                                                                                                                                                                                                                                                                                      2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADO23649;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AD023649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MAIN/) P
(PATE/) 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (GINS/)
(BLIE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADO23649
XX
AC ADO2
XX
DI DIA
XX
MWP 01-J
XX
MWP 01-J
XX
MWP 02-C
XX
MX
MWP 02-C
XX
MX
MW 02-C
XX
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MX
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02-C
MM 02
                                                                     g
                                                                                                                                                              셤
                                                                                                                                                                                                                                                              g
                                                                                                                           ò
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                  ∂
                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
                                                                                                                                                                                                                                                                                                                                           1560
                                                                                                                                                                                                                                                                                                                                                                                       1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGCTTTGGTGGCTAC 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCGCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2400
                                                                                                                                        CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                     1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                    1561 ATTAACGGGGATAAAGGGTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCCAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                         1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                      1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                 GCACTICACCAACAAGGACCATAGATTATGAAAACTGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                             ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                 TGTCGCTCAAGGCGCACTCCCGATACTATTTTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTCGAAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2161 TCCATCGCAGAGCTGCCTTTAATAAAGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCAIGGICCAACATCGACACCAGCAAGTGAATTAIGGIGIAACGGIACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGCTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1381
                                              1321
                                                                                                                                                                                         1381
                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                                                                1501
                                                                                                                                                                                                                                                                                                                                                                                                                               1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2221
```

1200

1260 1260 1320 1320

1020

960

1380 1440 1500 1500 1620

1620

1560

1680

1680

1800 1800 1860 1920

1860

```
GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGCTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGCTGGGGGGTTATGCGTTCAAG
                                                      GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                    CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT
                                                                                                                                                                                                                                                                                                  TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAAATTCG
                                                                                                                                                                                                                                                                                                                                                  TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                   CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGCAACTGGCGATGGCCCTGACATTATCTTCGGCCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                             AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                             cechaaccectroccececerrescearrearrangeaecaecrescaerrr
                                                                                                                                                                                      GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                    TCAGGCAGCCATCGGAAGCTGTGGCTGTGCCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                     TGTCGCTCAAGGCGCACTCCCGGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                     CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGCCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACCACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                      1021
                                                                                                              1021
                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                     1261
                                                                                                                                                                                                                                                                                                            1261
                                                                                                                                                                                                                                                                                                                                    1321
                                                                                                                                                                                                                                                                                                                                                            1321
                                                                                                                                                                                                                                                                                                                                                                                                                                    1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1681
                                                                                                                                     1081
                                                                                                                                                                                      1141
                                                                                                                                                                                                              1141
                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                            1201
                                                                                                                                                                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                        196
                                                              961
                                                                                                                                                                                                                                                                                                                                                                                      1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1981
                                                                                                                                                                                   8 8
                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                $ B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                      ò
                                                        셤
                                                                              ò
                                                                                                         g
                                                                                                                            ે
                                                                                                                                                    임
                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                       임
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                          ö
                                                                                                                                                                                                120
                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                                                                 9
                                                                                                                                                                    9
antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-Toxop30 fusion protein of the invention.
                                                                                                                                                             CGGACACCATGGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                            GFGTCTCTATCAGACGTTTCCCGCGTGGTGAACCAGGCCAGCGAGTTTCTGCGAAA
                                                                                                                                                                                                                                                                                                                                                                                             ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGCATCGTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                       ACCCCCCCCCCAAATIGICCCCCCCATTAAATCTCCCCCCATCAACTGGGTGCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGGGAACGCGACTGGAGTGCCCTGTCCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGCGCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGCCAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                          Gaps
                                                                                                  Length 7370;
                                                                                                                          ö
                                                                         0 Other;
                                                                                                                          Indels
                                                                         0 0;
                                                                                                  DB 12;
                                                                         H
                                                                                                                          .
9
                                                                         1663
                                                                                               81.5%; Score 2690.4;
99.8%; Pred. No. 0;
iive 0; Mismatches
                                                                        Sequence 7370 BP; 1900 A; 1857 C; 1950 G;
                                                                                                          Best Local Similarity 99.8
Matches 2694; Conservative
                                                                                                                                               -4
                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                  Query Match
                                                                                                                                                                                                61
                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
 88888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8 8 8
                                                                                                                                                               a
                                                                                                                                                                                             8 B 8
                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                    중 염
                                                                                                                                                                                                                                                                                                                                    8686
                                                                                                                                                                                                                                                                                                                                                                                                                                      6 8 6 8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 6 8
                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ठे
```

```
2220
1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                   2280
                                                                                                                                                                                         2280
                                                                                                                                                                                                                2340
                                                                                                                                                                                                                                      2340
                                                                                                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                 2400
                                                                                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                                                               2460
                                                                                                                                                                                                                                                                                                                                                                                                                                               2640
                                                                                                                                                                                                                                                                                                                                               TTGGCGAAAGATCCACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGGTGATCAACGCC 2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581 GCCAGGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACAACAACAACAATAACAATAACAACAACATCGGGGATCGGGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2700
                                                                                                                                                                                                                                                                                                                                                                                                                     ccaacatcccccacacatccccrrrcregrareccereceracecreacercarcaccc 2580
                                                                                                                                                                                                                                                                                                    GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                      1041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGCGCAAGAGCG
                                                                     GOTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                        2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                              GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                    GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                        TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                           AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                        GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        encoding MBP-ToxoP30MIX3 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADO23644 standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-OCT-2002; 2002US-00263153.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (MAIN/) MAINE G T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JS2004067239-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-APR-2004
                        2041
                                                                     2101
                                                                                                                 2161
                                                                                                                                                             2221
                                                                                                                                                                                    2221
                                                                                                                                                                                                           2281
                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                        2341
                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                  2461
                                                                                                                                                                                                                                                                                                                                                                         2461
                                                                                                                                                                                                                                                                                                                                                                                             2521
                                                                                                                                                                                                                                                                                                                                                                                                                    2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2641
                                                                                                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                                                                                                                                                                                                           2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADO23644;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                      ద
                     ઠે
                                                                  à
                                                                                                               ઠે
                                                                                                                                 ద
                                                                                                                                                      ठे
                                                                                                                                                                               요
                                                                                                                                                                                                         8 8
                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                     임
                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                    용
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                               名
                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
```

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in amino acid sequence of Toxo30del3C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence of Toxo30del3C P30 antigen sequence of sequence of Toxo30del3C (52-294aa) and MBP-Toxo30del3C (52-294aa) and MBP-Toxo30MIX1 (Is useful for detecting the presence of IgM cantibodas to Toxo21ama gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-CC antibody complexes. The invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                              Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, Toxo930 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 GIGICTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 AACAACTGGGGGGAAACAGTGGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 Grercriarcadacedrirecedecregicalecadeceaeceaecirrereceaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 Acadecedecedaaarrereecedecedarraaarereecedarcaacreeereecaece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTGTGAAGCCTGTAAAGCGGGGGGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGGCGGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGGTGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Troncecedadecarcadesecrearcatraacratecereaareaceaacaacea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 12; Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 7370 BP; 1900 A; 1857 C; 1950 G; 1663 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                           Bliese TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 2690.4;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                           Ginsburg SR,
                                                                                                                                                                                                                                                             Example 5; Fig 33; 114pp; English
                                                                                                                                                                                                                       antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81.5%;
99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 99.8
Matches 2694; Conservative
                                                                         Maine GT, Patel CB,
 PATEL C B.
GINSBURG S R
BLIESE T R.
                                                                                                            WPI; 2004-304563/28
                                                                                                                              P-PSDB; AD023645
(PATE/) E
(GINS/) G
(BLIE/) E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

THE PROPERTY OF SERVICE SERVICES OF SERVIC
1-1 CROCKTONCOACHGANTATTTTTTCCCATCOACHGANGCATACCGATTGCGCCTTCCATCOACHGANTATTTTTTCCCATCOACHGANCACCTCCCGTTCCACCTCTCCCCCTTCACCTCCCCTTCCCCCTTCCCCCTTCCCCCTTCCCCCTTCCCC

```
241
                                                                                                        301
                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                              301
                                                                                                                                                                         361
                                                                                                                                                                                              421
                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                  g
                                                             ઠે
                                                                                                                          셤
                                                                                                    ò
                                                                                                                                                  ò
                                                                                                                                                                   g
                                                                                                                                                                                            ò
                                                                                                                                                                                                                g
                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  g &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and ToxoP30 MIXI sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-TOxO30de13C(52-100aa), MBP-TOXO30de14C(52-294aa) and MBP-TOXO30MIXI antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-TOXOP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Gaps
                                                                                                                                                                                                                                                                                                                                                                            Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81.5%; Score 2690.4; DB 12; Length 7403; 99.8%; Pred. No. 0; tive 0; Mismatches 6; Indels 0; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 7403 BP; 1907 A; 1863 C; 1961 G; 1672 T; 0 U; 0 Other;
                                                                            DNA encoding MBP-ToxoP30del2(52-311aa) fusion protein
                                                                                                                                                                                                                                                                                                                          Bliese
                                                                                                                                                                                                                                                                                                                          SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 2; Fig 11; 114pp; English
                ВР
                                                                                                                                                                                                                                                                                                                         Ginsburg
              DNA; 7403
                                                                                                                                                                                                                       02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                             02-OCT-2002; 2002US-00263153
                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 99.8
Matches 2694, Conservative
                                                                                                                                                                                                                                                                  MAINE G T.
PATEL C B.
GINSBURG S R.
BLIESE T R.
                                                                                                                                                                                                                                                                                                                        Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                           WPI; 2004-304563/28.
P-PSDB; ADO23595.
              standard;
                                                                                                                                             Poxoplasma gondii
                                                                                                                                                                            US2004067239-A1.
                                                       01-JUL-2004
                                                                                                                                                                                                 08-APR-2004.
                                                                                                                                                         Synthetic.
                                  ADO23594;
             AD023594
                                                                                                                                                                                                                                                                  (MAIN/) N
(PATE/) I
                                                                                                                                                                                                                                                                                       (GINS/) (BLIE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 8 8
```

```
300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260
                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                960
AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTTGGCCTTGC
                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       THEFT TO THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT OF THE TRANSPORT O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721 CGGAACGGGAAGGCGACTGGAGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081 CGCAAACCGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
```

THIS PAGE BLANK (USPTO)

2, Appli 5, Appli 4, Appli 213, App 213, App 213, App 254, App 254, App 254, App 254, App

Sequence Sequence Sequence

Sequence Sequence Sequence Sequence Sequence Sequence Sequence

Sequence Sequence Sequence Sequence

Sequence

us-09-765-555b-14.rni

```
US-09-503-222-7
US-08-125-462-2
US-08-125-462-2
US-08-125-462-2
US-08-125-462-2
US-09-128-314-4
US-09-128-314-4
US-09-072-56-203
US-09-072-56-203
US-09-072-967-213
US-09-643-597-254
US-09-643-254
US-09-464-218-254
US-09-476-4968-254
US-09-476-4968-254
US-09-476-4968-254
US-09-476-4968-254
US-09-476-4968-254
US-09-476-4968-254
US-09-476-4968-254
US-09-476-4968-254
US-09-128-314-3
                                                                                                                                                                                                                                                                                                                                                                                     ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA (genomic)
   6361
6727
6727
6729
6739
7676
7676
7676
7676
8031
8031
8031
8031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 340 Kings
CITY: Nutley
STATE: N.J.
COUNTRY: U.S.A.
ZIP: 07110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: DI
HYPOTHETICAL: NO
   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-971-036-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-971-036-1
                                                                         111999.22
111999.23
111999.24
111999.25
111999.25
111999.25
111999.25
111999.25
111999.25
111999.25
111999.25
111999.25
111999.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
   Sequence 785, App
Sequence 785, App
Sequence 785, App
Sequence 785, App
Sequence 785, App
Sequence 62, Appl
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3, Appli
Sequence 2, Appli
Sequence 3, Appli
Sequence 5, Appli
Sequence 12, Appli
Sequence 18, Appl
Sequence 35, Appli
Sequence 35, Appli
Sequence 11, Appli
                                                                                                                             August 2, 2005, 10:29:49; Search time 352.4 Seconds (without alignments) 15322.682 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                  1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1,
Sequence 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Issued Patents NA:*

(cgn2_6/ptodata/1/ina/5A_COMB.seq:*

(cgn2_6/ptodata/1/ina/5B_COMB.seq:*

(cgn2_6/ptodata/1/ina/6A_COMB.seq:*

(cgn2_6/ptodata/1/ina/6B_COMB.seq:*

(cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*

(cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
                 GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-971-036-1

US-09-096-570-1

US-09-025-617B-1

US-09-027-L69-3

US-09-640-882-2

US-09-640-882-3

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-141-35-18

US-09-13-18-785-18-18-785-18-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-18-785-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-589-184-784
US-09-658-824-784
US-08-646-538-7
                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                          1202784 segs, 818138359 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                             - nucleic search, using sw model
                                                                                                                                                                                                                                                                                  IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                       seq length: 0
seq length: 200000000
                                                                                                                                                                                                          US-09-765-555B-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Perfect score:
                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            136.5
136.2
136.2
120.6
120.0
1199.2
1199.2
1199.2
1199.2
1199.2
1199.2
1199.2
1199.2
1199.2
1199.2
1199.2
1199.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1199.2
1199.2
1199.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB E
Maximum DB E
                                                                                           OM nucleic
                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database
                                                                                                                                 Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
```

81.8%; Score 2700; DB 2; Length 7475; COMPUTER TEADABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
SOFTWARE: PATENTIN ROLDS/MS-DS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/971,036
FILING DATE: 14-NOV-1997
CLASSIFICATION NUMBER: GB 9623908.2
FILING DATE: 18-NOV-1996
ATTOKNEY/AGENT INPORMATION:
NAME: KEFISIEL, Lewis J
REGISTRATION NUMBER: 38522
REGISTRATION NUMBER: 38522
REGISTRATION NUMBER: 38523
REGISTRATION NUMBER: 38523
REGISTRATION NUMBER: 38523
REGISTRATION NUMBER: GP 733 235-3363
INFORMATION FOR SEO ID NO: 1:
SEQUENCE CHARACTERISTICS:
LEMEGTH: 17475 Dase Pairs
LEMEGTH: 17475 Dase Pairs APPLICANT: Attwood, Michael R
APPLICANT: Hurst, David N
APPLICANT: Hurst, David N
APPLICANT: Kay, Paul B
APPLICANT: Raynham, Tony M
APPLICANT: Wilson, Francis X
TITLE OF INVENTION: Amino Acid Derivatives
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hoffmann-La Roche Inc. SEE: Hoffmann-La Roche Inc.: 340 Kingsland Street Nutley ; Sequence 1, Application US/08971036; Patent No. 5866684; GENERAL INFORMATION:

g ઠે 원 δ 셤

g δ 셤 ઠે

g ઠે a

ઠે

엄

ઠે

셤

ઠે

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGGGAAAAAGTGGAAGGGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCCGCCGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rreregegeaacgegerearegegergarearraacraregegergeargaegargeea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGAGGGCATCGTTCCCACTGCGATGCTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                     1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                  1 ccgacaccarcgaarggracaaaccrrrcgcggrarggcargaragcgccccggaaga
                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                             reeregreceargeragaacgaagcgcgregaagccreraraagcggcggrecaarc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                        Length 7475;
                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                       DB 3;
                                                                                                                                                                                                           81.8%; Scor.
100.0%; Pred. No. v,
'... 0; Mismatches
   RAN 4430/073
REFERENCE/DOCKET NUMBER: RAN
TELECOMMUNICATION INFORMATION:
TELEPAX: (973) 235-4387
TELEFAX: (973) 235-2363
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                       TOPOLOGY: circular
MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                       Conservative
                                                                                                           TYPE: nucleic acid STRANDEDNESS: double
                                                                                                                                                                                                                                  Best Local Similarity
Matches 2700; Conserv
                                                                                                                                                                            , HYPOTHETIC.
US-09-096-570-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                              2280
                                                                                                                                            2340
                                                                                                                                                                         2340
                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                       2400
                                                                                                                                                                                                                                                                      2460
                                                                                                                                                                                                                                                                                                     2460
                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                                                 2520
                                                                                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                                                                                              2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGCGGTTAATAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                               2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                        2341 CCGAACAAAGAGCTGGCAAAAGGTTCCTCGAAAACTATCTGCTGATGATGAAGGTCTG
                                                                                                                                                                                                                                                                                        2401 GAAGCGGTTAATAAAGACAAAACCGCTGGGTGCCCTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                               CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                            AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                              AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT
                                                                                                                                                                                                      GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: W.S.A.

ZIP: 07110
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.
CURRENT APPLICATION DATA:
RPLICATION NUMBER: US/09/096,570
FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Attwood, Michael R
APPLICANT: Huret, David N
APPLICANT: Hones, Philip S
APPLICANT: Yones, Philip S
APPLICANT: Raynham, Tony M
APPLICANT: Raynham, Tony M
APPLICANT: Wilson, Francis X
TITLE OF INVENTION: Amino Acid Derivatives
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Hoffmann-La Roche Inc
STREET: 340 Kingsland Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/971,036
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/09096570; Patent No. 6018020; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Kreisler, Lewis J
REGISTRATION NUMBER: 38522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: Nutley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-096-570-1
                                                                                                                                                                        2281
                                                                                                                                                                                                      2341
                                                                                                                                                                                                                                                                                                                                                                2461
                                                                                                                                                                                                                                                                                                                                  2461
                                                                                                                                                                                                                                                                                                                                                                                               2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2581
                                                                              2221
                                                                                                             2221
                                                                                                                                          2281
                                                                                                                                                                                                                                                                    2401
```

1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGGTAAGAGGCGCTGATGTTCAAC 1980 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGGCGAAAGGTAAGAGCGCTGATGTTCAAC 1980 1921 GAGATCCCGGCGCTGGATAAAGACTGAAAGCGAAAGGCGACGCTGATGTTCAAC 1980 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGATGTTCAAG 2040 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGACGGTTATGCGTTCAAG 2040 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTACTGCTGCTGCGCTCAAAGCG 2040 2041 TATGAAAACGGCAAGTACGACATTAAAAACGCTGGCGCGCGC		GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC	Qy 2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGAAGGTCTG 2400 Db 2341 CCGAACAAAAGAGCTGGCAAAAAGAGTTCCTCGAAAACTGTCTGCTGATGAAGGTCTG 2400 Qy 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGAGAAGAG 2460 Db 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGAAGAG 2460	Qy 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	0 0 0 0	RESULT 3 US-09-265-617B-1 Sequence 1, Application US/09265617B Patent No. 6372883 GENERAL INPORMATION: APPLICANT: Attwood, Michael R. APPLICANT: Hurset, David N.	APPLICANT: Jones, Philip S. APPLICANT: Kay, Paul B. APPLICANT: Raynham, Tony M. APPLICANT: Wilson, Francis X. TITLE OF INVENTION: Antiviral Medicaments FILE REFERENCE: 20052 antiviral Medicaments CURRENT APPLICATION NUMBER: US/09/265,617B CURRENT APPLICATION NUMBER: GB9806815.8 PRIOR APPLICATION NUMBER: GB9806815.8 PRIOR PILING DATE: 1998-03.30 NUMBER OF SEQ ID NOS: 24 SOFTWARE: PatentIn Ver. 2.0
	AGGGAATCAGCTGTTGCCGTCTCACTGCTGCTGCAACTCTCTCAGGGCCAGGCGGTGA AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAA	1141 CCCGACTGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGGCAGGTTT 1140 1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAATTAATGCAGCTGGCACTCATTAG 1200 1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCA	TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCGTGAAATCACTGCATAATTCG	CTGGCAAATATTCTGAAATGAGCTGTTGAATGTTTTTTGCGCCGACATCATAACGGTT CTGGCAAATATTCTGAAATGAGCTGTTGACATTAATCATCGGCTGGTATAATGTGTGGA [1501 GCACTTCACCAACAACACTTCACAGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 1501 GCACTTCACCAACAAGACCATAGATATGAAAACTGAAGAAGTAAACTGGTAATCTGG 1560 1501 GCACTTCACCAACAAGGACATATGAAAACTGAAGAAGTAAACTGGTAATCTGG 1560 151 ATTAACGGCGATAAAGGCTAAACGGTCTCGCTGAAGAAATTCGGAAAAAT 1620 151 ATTAACGGCGATAAAGGCTTAAAAGGCTTAAACGGTCTCGCTGAAGTAAAAAAAA	AGGTT AGGTT AGGTT AGGTT AGGTT AGGTT AGGTT AGGTT	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 1801 CCGTTTACCTGGGATGCCGTACGTTACAAGCGTAGCTGTAT 1800 1801 CCGTTTACCTGGATGCCGTACGTTACAAGGCTGATTGCTTACCCGATCGCTGTT 1860 1801 CCGTTTACCTGGATGCCGTACGTTACAAGGCTGATTACCCGATCGCTGTT 1860 1861 GAAGCGTTATCGCTGATTATAAACAAAGATCTGCCGAACCGCCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCCGAACCGCCCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCCGCAAAAACCTGGGGAA 1920

S

m

Aug

Wed

8 6

8 8 8

6 6 6 6

g

ર્જ

8 S

g 8 6

```
1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2040
                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                            1260
                                                                                                                                                                                                                                                                                     1320
                                                                                                                                                                                                                                                                                                             1320
                                                                                                                                                                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                                                                                                                                                                    1440
                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                      1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1980
                                                                                                                                    1140
                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                     1260
                                                                                 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACTTCACCAACAAGGACCATAGATATATGAAAACTGAAGAAGGTAAACTGGTAAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                               GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                     TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                   TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                      TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                    CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCACTTCACCAACAAGGACCATAGGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCGGCAACTGGCCGATGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                     GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                      CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1921
                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                    1321
                                                                                                                                                                                                                                                                                                                                                                                       1381
                                                                                                                                                                                                                                                                                                                                                                                                                                       1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1981
                                                                                    1021
                                                                                                            1021
                                                                                                                                     1081
                                                                                                                                                                                     1141
                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1741
                                                           961
                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ठे वि ठे
                                                                                                                                                                             S a
                                                                                                                                                                                                                                   S d
                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                     음상
                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
            8 8
                                                   g
                                                                         ∂
                                                                                                       g
                                                                                                                                    ò
                                                                                                                                                      QΩ
                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                120
                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC 960
                                                                                                                                                9
                                                                                                                                                                        9
                                                                                                                                                                                                                                                CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACGCTAAAAAGCCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                   ACCCCCCCCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                          Acececcorcecaarrereceeecarraarcreeeecearcaacreeerecaeee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                   CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGGGGGGGGGGGGGGGGGGGTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rreregeceaacecercagresecrearcarraacrarececresarsaccassarsce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                       AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                          Gaps
                                                 and
                                                                                                                        ;
0
                                                 Artificial Sequence: Vector
                                                                                                                        Indels
                                                                                               Length
                                                                                                                        ö
                                                                                                 3,
                                                                                               DΒ
                                                                                              81.8%; Score 2700; D
100.0%; Pred. No. 0;
ive 0; Mismatches
                                               Description of
Gene Fragments
LENGTH: 7475
TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                               Query Match
Best Local Similarity 100.
Matches 2700; Conservative
 ; LENGTH: 7475
; TYPE: DNA
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: D
; OTHER INFORMATION: G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                        -
                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                  61
                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
```

중 음

& 8

6 6 6 6 6 6

ያ ያ

<u>ና</u> ይ

ø

음

ò

ò

g

엄 ò 셤

ઠે

g

ò

셞

ò

셤

ò გ ठे 용 ò 셤 ò 유

à

```
1444 GICICITATCAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICTGCGAAAACG 1385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC 1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA 1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1564 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1264 GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1504 CAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGTCTGCGTCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            783 GAGGGCATCGTTCCCACTGCGATGCTGCTACCAACGATCAGATGGCGCTGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGAAAAAGTGGAAGCGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCCTGTAAAGCGGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1204 GTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    904 CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                               3 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                     Length 5926;
                                                                                                                                                                                                                                                                                                                                     DB 3;
                                                                                                                                                                                                                                                                                                                                                                           6
                                                                                                                                                                                                                                            MOLECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "pEM delta R.adj to 1"
                                                                                                                                                                                                                                                                                                                                 Query Match
43.0%; Score 1417.6;
Best Local Similarity 98.6%; Pred. No. 0;
Matches 1455; Conservative 0; Mismatches
    NAME: Brown, Anne
REGIGTRATION NUMBER: 36,463
REFERENCE/DOCKET NUMBER: 5789-3
TELECOMMUNICATION INFORMATION:
TELEPAN: 919 813175
TELEPAN: 919 813175
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 5926 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: circular
                                                                                                                                                                                                                                                                                         US-09-027-169-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              723
                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            рp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                  2160
                                                                                                                                                                                                        2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2640
                                                                                                                                                                                                                           2221 GCATGGTCCAACATCGACAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                                          2281 AAGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2581 GCCAGGGGTCGTCAACTGTCGATGAAGCCCTGAAAAGACGCGCAGACTAATTCGAGCTCG 2640
CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCCGTTCAAG 2040
                                                                                                                                                                                                                                                                                  GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                   AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                          2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                    TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                      GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: CRAIG, NANCY L
TITLE OF INVENTION: GAIN OF FUNCTION MUTATIONS IN
TITLE OF INVENTION: ATP-DEPENDENT TRANSPOSITION PROTEINS
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSE: Anne Brown (Alston & Bird, LLP)
STREET: 3605 Glenwood Ave.
CITY: Raleigh
STATE: NC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
FILING DATE:
CLASSIPECATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Sequence 3, Application US/09027169; Patent No. 6420524; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: USA
ZIP: 27608
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-027-169-3/c
                                                                                                                                                            2101
                                                                                                                      2101
                                                                                                                                                                                                      2161
                                                                                                                                                                                                                                                                                  2221
                                                                                                                                                                                                                                                                                                                                                                   2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2641
                                                                                                                                                                                                                                          2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461
  1981
                                          2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2401
```

1085

965

722

842

1505

12;

ä

925 122 985 1045

182

1105

302

242

1165

362

1225

```
CCCATCAACAGTATTTTTCTCCCATGAAGACGGTACGCGACTGGGGCTGGACGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCTGGGGCAAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                          GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                          GCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAACGGGAAGGCGACTGGCCATGTCCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGC
                                                                      GACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGT
                                                                                               CAATTCAGGGTGGATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                           CAATTCAGGGTGGAATGTGAAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                             CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                            GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCATCAACAGTATTTTTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                  GACACCATGGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                          Gaps
                          ..
7
  Length 5201;
                          10; Indels
  DB 4;
 ; Score 1362; DE
; Pred. No. 0;
0; Mismatches
41.3%; ;
milarity 99.1%; I
Conservative 0;
             cal Similarity
1380; Conser
 Query Match
Best Local S
Matches 1380
                                                                                                                                                                                                                                                                                                                                                                                                                1286
                                                                                                                                                                                                                                                                     1106
                                                                                                                                                                                                                                                                                                                                                                 1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1826
                                                ٣
                                                                       998
                                                                                                                       926
                                                                                                                                             123
                                                                                                                                                                     986
                                                                                                                                                                                             183
                                                                                                                                                                                                                    1046
                                                                                                                                                                                                                                           243
                                                                                                                                                                                                                                                                                                                   1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  963
                                                                                               63
                                                                                                                                                                                                                                                                                           303
                                                                                                                                                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                                                                                                         423
                                                                                                                                                                                                                                                                                                                                                                                                                                        483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603
                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Пb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원 상
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                              ò
                                                                                                                g
                                                                                                                                       ∂
                                                                                                                                                               g
                                                                                                                                                                                            ò
                                                                                                                                                                                                            Ω
                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                1082
                                                                                                                                                                                                                                1142
                                                                                                                                                                                                                                                                               1202
                                                                                                                                                                                                                                                                                                                              1262
                                                                                                                                                                                                                                                                                                                                                                             1322
                                                                                                                                                                                                                                                                                                                                                                                                                            1382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1441
                                                                                                                                 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/09640882

Patent No. 6720142

GENERAL INFORMATION:

APPLICANT: Hall, Barry G.

TITLE OF INVENTION: RESISTANCE GENES AND USE THEREOF TO SCREEN FOR DRUG

TITLE OF INVENTION: RESISTANCE GENES AND USE THEREOF TO SCREEN FOR DRUG

TITLE OF INVENTION: REPETCACY

FILE REFERENCE: 176/60851

CURRENT PAPLICATION NUMBER: US/09/640,882

CURRENT PAPLICATION NUMBER: 60/149,813

PRIOR APPLICATION NUMBER: 60/149,813

PRIOR FILING DATE: 1999-08-19

NUMBER OF SEQ ID NOS: 17

SOFTWARE: PatentIn Ver: 2.1
                                    902
                                                            665
                                                                                    962
                                                                                                         605
                                                                                                                                                         545
                                                                                                                                                                                                        485
                                                                                                                                                                                                                                                       425
                                                                                                                                                                                                                                                                                                      376
                                                                                                                                                                                                                                                                                                                                                      316
                                                                                                                                                                                                                                                                                                                                                                                                     256
                                                                                                                                                                                                                                                                                                                                                                                                                                                   196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   136
                                                                                 CTGCTGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                           484 CAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCAAATATTCTGAAATGAGCTGTTGACAATTAATCAT-CGGCTCGTATAATGTGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    195 GGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGGA
                                                                                                                                                                                            CAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACACGGTTTCC
                                                                                                                                                                                                                                                                               GAATTGATCTGGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                             AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                                                                                                        315 AGGCAGCCATCGGAAGCTGTGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                          TCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTTCT
               GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                    CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGAC
                                                  CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAAGCGGGGGTGAAG
                                                                                                                                                                                1203 ACAATICICATGITIGACAGCITATCATGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCGCTCAAGGCGCCACTCCCGTTCTGGATATGTTTTTTGCGCCGACATCATAACGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             plasmid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: pACSE2
US-09-640-882-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 5
US-09-640-882-2
                                                          724
                                                                                                                                                         604
                                                                                                                                                                                                                               1083
                                                                                                                                                                                                                                                                                                                                                                             1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                   255
                                                                                                                                                                                                                                                                               1143
                                                                                                                                                                                                                                                                                                                                                                                                                           1323
                                                                                                         664
                                                                                                                                                                                                                                                                                                                                                      375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE:
SEQ ID NO 2
                                                                                                                                                                                1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1383
                                    843
                                                                                  903
                                                                                                                                 963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                셤
                                                                                                                                                                             8 8 8
                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                 B 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
            8 & 8
                                                                          6 B 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
```

1345

482

1285

422

1405

542

1465

602

662

1525

722

1585

1645

842

782

1705

1765

902

1022

1825

œ

1285

482

542

1525

1645

1765

962

1885

```
GCGCCGTCGCAAATTGTCGCGCGGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1323 TCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTTCT 1382
                                                                 GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                  GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATCTT
        CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                         GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                             CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                        GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1946 CAAACCGCCTCTCCCCGGGGGTTGGCGATTCATTAATGCAGCTGGCACGACAGGTTTCC
                                                                                                    GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                       GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAATTCTCATGTTTGACAGCTTATCATCGACTGCACCAGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                              CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                              GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                            CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1766 GATACCGAAGACAGCTCATGTTATATCCCGCCGTCAACCACCATCAAACAGGATTTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1263 AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2064 TGAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2124 AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                              1106
                                                                            1166
                                                                                                                         1226
                                                                                                                                                                                                 483
                                                                                                                                                                                                                                                                                                                                                                                          723
        243
                                                                                                                                                                        1286
                                                                                                                                                                                                                        1346
                                                                                                                                                                                                                                                                      1406
                                                                                                                                                                                                                                                                                                                     1466
                                                                                                                                                                                                                                                                                                                                                                  1526
                                                                                                                                                                                                                                                                                                                                                                                                                1586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1203
                                                      303
                                                                                                    363
                                                                                                                                                  423
                                                                                                                                                                                                                                               543
                                                                                                                                                                                                                                                                                              603
                                                                                                                                                                                                                                                                                                                                            663
                                                                                                                                                                                                                                                                                                                                                                                                                                        783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1143
                                                   ò
                                                                      g
                                                                                          8
                                                                                                                  g
                                                                                                                                                ò
                                                                                                                                                                  원
장
                                                                                                                                                                                                               g
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                             8 8
                                                                                                                                                                                                                                                                                                              8 6 8
                                                                                                                                                                                                                                                                                                                                                                                   ठे व ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                      9 % g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           상
유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                        Sequence 3, Application US/09640882

Patent No. 6720142

GENERAL INFORMATION:
GENERAL INFORMATION:
INTILE OF INVENTION:
ITILE OF INVENTION:
ITILE OF INVENTION:
ITILE OF INVENTION:
FILE REFERENCE:
CURRENT APPLICATION NUMBER: US/09/640,882

CURRENT APPLICATION NUMBER: US/09/640,882

CURRENT APPLICATION NUMBER: 06/149,813

PRIOR FILING DATE: 1999-08-19

PRIOR FILING DATE: 1999-08-19

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 3

LENGTH: 5201
                                                                                                                                                           2123
                                                                                                                                                                                   1322
                                                                                                                                                                                                          2183
                                                                                                                                                                                                                             TGGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTTCT 1382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
2006 CGACTGGAAAGCGGGCAACGCAATTAATGTGAGTTAG--CGCGAATTGATC
                                                                                                                                               2064 TGAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGCTC
                                                                                                                                                                                                                                            2184 TCGCTCAAGGCGCACTCCCGGTTCTGGATAATGTTTTTTGCGCCCGACATCATAACGGTTCT
                                                                                                                                1203 ACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                               AGCCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                             2124 AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACACCATGGATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GICTCITAICAGACCGTITCCCGCGIGGTGAACCAGGCCAGCCACGTITCTGCGAAAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCTCTTATCAGACCGTTTCCCGGCGTGAACCAGGCCAGGCCACGTTTCTGCGAAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 4; Length 5201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
41.3%; Score 1362; DB 4; Length 5
Best Local Similarity 99.1%; Pred. No. 0;
Matches 1380; Conservative 0; Mismatches 10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
ORGANICAH Artificial Sequence
PEATURE:
OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: pACSE3
                                                                                                                                                                                                                                                                           1383 GGCAAATATTCT 1394
                                                                                                                                                                                                                                                                                         , OTHER INFORM
US-09-640-882-3
                                    1083
                                                                                                                                                                               1263
                                                                                                                                                                                                                              1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         986
            윰
                              ò
                                                  8 8
                                                                                                8 6 6
                                                                                                                                                                     දු පු
                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                          È
                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 6 8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          경 음 .
```

Wed

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1103 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCTC 3162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3643 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 3702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2802
                                                                                                                                                                                                                                                                                                                                  2862
                                                                                                                                                                                                                                                                                                                                                                                                                           2922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              163 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 3222
                           2623 GTCAATTCAGGGTGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 2682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3223 GCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                               CGCGGGGAAAAAGTGGAAAGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAACGAGCGGCGCGACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCGCGCCATTACCGAGTCCGGGCTGCGCTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCAAACCTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3583 AGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                       CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                     241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                            2803 AACAACTGGCGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                 301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                          TICICGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3043 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3523 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                      2743
                                                                                                                                                                                                                                                                                                                                                                                                                                2863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
61
                                                                                              121
                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                            g
                                                                                                                                                                                     à
                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                      원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                            Sequence 5, Application US/08778717

Patent No. 6602689

GENERAL INFORMATION:
APPLICANT: UENO, EIICHI
APPLICANT: OKADA, MASAHISA
ITILE OF INVENTION: EXPRESSED PROM SAID PUSED PROTEIN
ITILE OF INVENTION: EXPRESSED PROM SAID PUSED DNA SEQUENCE
ITILE OF INVENTION: EXPRESSING SAID DNA SEQUENCE
NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
ADDRESSEE: P.C.
ADDRESSEE: P.C.
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
CITY: ARLINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 2622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ,
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36.5%; Score 1204; DB 4; Length 4557; 100.0%; Pred. No. 0; Aismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
TOPOLOGY:
TOPOLOGY:
ORIGINAL SOURCE:
ORGANISM: B. COLI
STRAIN: BL21 (DE3)
PUBLICATION INFORMATION:
AUTHORS: NOBUTUKI FUJII ET AL,
AUTHORS: PROBUTUKI FUJII ET AL,
TITLE: FROM SAID FUSED DNA SEQUENCE, FUSED PROTEIN EXPRESSED
TITLE: EXPRESSING SAID FUSED PROTEIN
RELEVANT RESIDUES IN SEQ ID NO: 5: FROM 1 TO 4557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Eloppy disk
COMPUTER: IBM FC compatible
COMPUTER: IBM FC compatible
COMPUTER: IBM FC compatible
COMPUTER: IBM FC compatible
COMPUTER: IBM FC compatible
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/778,717
FILING DATE: 12-DEC-1996
CLASSIFCATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: J8 35225/1995
FILING DATE: 3-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F:
REGISTRATION NUMBER: 2084-031-0
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION INFORMATION INFORMATION INFORMATION INFORMATION INFORMATION INF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                  1383 GGCAAATATTCT 1394
                                                                                                                  2244 GGCAAATATTCT 2255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity ....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                     RESULT 7
US-08-778-717-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-778-717-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2563
                      2184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                  ò
                                                                                                        셤
```

윱

셤 ò

```
961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGGGGTGA 1020
              243 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 302
                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 420
                                                                                                                                                     422
                                                                                                                                                                                                                      482
                                                                                                                                                                                                                                                                                       542
                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                        602
                                                                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                                                                                                                                                                                                                                                                                                                         662
                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             962
                                                                           303 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGACTGGGCGTGCGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                             TGGTCGCATTGGGTCATCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                  TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       843 recedentracceaercceserrecerreceserarerecesaratereserace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        903 ACGATACCGAAGACAGCTCATGTTATATCCCGCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTGCTGGGGCAAACCAGGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1083 CGCAAACCGCCTCTCCCCCGCGCGTTGGCCCGATTCATTAATGCAGCTGGCACGACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 9
US-08-487-283A-18/c
US-08-487-283A-18/c
; Sequence 18, Application US/08487283A
; Patent No. 6355245
; GENERAL INFORMATION:
; APPLICANT: Evans, Mark J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201 GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCAC 1206
                                                                                                                361
                                                                                                                                                363
                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                   543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         963
                                                                                                                                                                                                                 423
                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                  483
                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                  603
                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      783
                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1203
                                                                        a
                                                                                                                                                                                                          Q
                                           ò
                                                                                                             ठे
                                                                                                                                         임
                                                                                                                                                                            ò
                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACAACTGGCGGGCAAACAGTCGTTGCTGATTGCCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 ccGacaccarcGaarGGcGcAaaaccrrrcGcGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 GIGICTCTIATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGATGGCCGGAGCTGAATTACATTCCCCAACCGGCGTGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                   Sequence 2, Application US/08148675A

Patent No. 5506121

GENERAL INFORMATION:
APPLICANT: Skerra, Arne; Schmidt, Thomas
TITLE OF INVENTION: FUSION PEPTIDES WITH BINDING ACTIVITY FOR
TITLE OF INVENTION: STREPTAVIDIN
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1; Length 3832;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READBLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 360 kb storage COMPUTER: IBM PSC PERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
36.4%; Score 1200.8;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 1202; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
PPPLICATION NUMBER: US/08/148,675A
FILING DATE: 3-NOV-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: DE 42 37 113.9
FILING DATE: 03-NOV-1992
ATTONNEY AGENT THYORMATION:
NAME: Teal, Christine H.
REGISTRATION NUMBER: 34,266
REGISTRATION NUMBER: 34,266
REFERENCE/DOCKET NUMBER: HUBR 1041
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION FOR SEQ 15 NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 3832 bases
                                                                                                                                                                                                                                                                                                     ADDRESSEE: Felfe & Lynch
STREET: 805 Third Avenue
CITY: New York City
STATE: New York
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 3832 bases
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TOPOLOGY: linear
US-08-148-675A-2
                                                                                  3763 GCAC 3766
                                                    GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                          10022
                                                                                                                                     RESULT 8
US-08-148-675A-2
                                                    1201
                   3703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
```

g

ò

ò

ద

ઠે 셤 8 台 &、

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1080
                         4451
                                                                                                                                                                             4331
                                                                                                                                                                                                                                                       4271
                                                                                                                                                                                                                                                                                                                                 4211
                                                                                                                                                                                                                                                                                                                                                                                                           4151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3790 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCCAATA 3731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3850 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 3791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              960
                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4270 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGCGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4090 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAAACCACCATCAACAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTGCTGGGGGAAACCAGCGTGGACGGCTTGCTGCAACTCTCTCAGGGCCAGGGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4450 TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                       4330 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                           4210 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3970 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3730 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTGGTGTCGATGGTAGAACGAAGCGCCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                           riciceccaaceccacagecercarcarraacrarcecreeareaccagearecca
                                                                                                                                                                                                                   TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                             CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                         TGGTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
PCT-US96-05611A-21/C
; Sequence 21, Application PC/TUS9605611A
; GENERAL INFORMATION:
; APPLICANT: Mueller, John P.
; APPLICANT: Lenardo. Michael J.
; APPLICANT: McParland, Henry F.
; APPLICANT: Matis, Louis A.
; APPLICANT: Mueller, Eileen Elliott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3610 GCAC 3607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCAC 1204
                                                                                                                                                                           4390
                         4510
                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                       421
                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                     ò
                                                                                                                                                                         d
                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4810 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGGAAGAGA 4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4750 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1630 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1570 AACAACTGGCGGCGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGACACCCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
APPLICANT: Matis, Louis A.
APPLICANT: Mualler, Eileen Elliott
APPLICANT: Noe, Steven H.
APPLICANT: Rollins, Socot
APPLICANT: Rother, Russell P.
APPLICANT: Springhorn, Jeremy P.
APPLICANT: Springhorn, Jeremy P.
APPLICANT: Thomas, Thomas C.
APPLICANT: Wilkins, James A.
TITLE OF INVENTION: OF INFLAMMATORY DISEASES
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS: ADDRESSE: Seth A. Fidel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 3; Length 5248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: Other nucleic acid
DESCRIPTION: PET Trc SO5/NI
DESCRIPTION: prokaryotic expression vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/487,283A
FILING DATE: June 7, 1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/236,208
FILING DATE: 02-MAY-1994
ATTONEY/AGENT INFORMATION:
NAME: Seth A. Fidel.
REGISTRATION NUMBER: 38,449
FEBERBROE/DOCKET NUMBER: 38,449
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (203)776-1790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 36.3%; Score 1199.2;
Best Local Similarity 99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.4Mb storage
COMPUTER: Macintosh Cetris 610
                                                                                                                                                                                                                                                   ADDRESSEE: Seth A. Fidel
STREET: 25 Science Park (Alexion)
CITY: New Haven
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (203)776-1790
TELEFAX: (203)772-3655
INFORMATION FOR SEQ 1D NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 5248 base paire
TYPE: Nucleic Acid
STRANDEDNESS: Double
                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: Macintosh Cetris
OPERATING SYSTEM: System 7
SOFTWARE: WordPerfect 3.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Circular
                                                                                                                                                                                                                                                                                                             Connecticut: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-487-283A-18
                                                                                                                                                                                                                                                                                                             STATE: COCOUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

us-09-765-555b-14.rni

```
4510 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 4451
                                                           4390 TTCTCGCGCAACGCTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 4331
                                                                                                                                                                                                                                                                     961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1970 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 3911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                            TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                4330 TIGCIGIGGAAGCIGCCTGCACTAATGTICCGGCGTTATTTCTTGATGTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCTGAAATATCTCACTCGCAATCAAATTCAGCCGGTAG
                                                                                                                                                                                                                                                 CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCCTTAAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGATACCGAAGACACCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3850 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3730 CGCAAACCGCCTCTCCCCGCGCGTTGCCGATTCATTAATGCAGCTGCACAGGTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 11
US-10-263-103-35/c
; Sequence 35, Application US/10263103
; Patent No. 6812723
; GENERAL INFORMATION:
; APPLICANT: Chevalier, Michel
; APPLICANT: El Habib, Raphaelle
; APPLICANT: Krell, Tino
; APPLICANT: Sodoyer, Regis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAC 3607
                                     361
                                                                                                                                                                                                                                                                                  4270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4030
                                                                                                         421
                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                           4150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                         4210
                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3610
                                                               g
                                                                                                                                                                                                          g
                                                                                                      ò
                                                                                                                                                                      ò
                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    상· 점
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4750 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAAGGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACAACTGGGGGGGAAACAGTGGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36.3%; Score 1199.2; DB 5; Length 5248; Similarity 99.8%; Pred. No. 0; 01. Conservative 0; Mismatches 3; Indels 0;
 APPLICANT: Not Clara M. APPLICANT: Not Clara M. APPLICANT: Squinto, Stephen P. APPLICANT: Squinto, Stephen P. APPLICANT: Wilkins, James A. TITLE OF INVENTION: Modified Myelin Protein Molecules NOMERE OF SEQUENCES: 29
CORRESPONDENCE ADDRESS: ADDRESSE: AMBURICA M. Klee STREET: 1951 Burr Street CITY: Fairfield STATE: COUNTRY: USA COUNTRY: USA ZIP: G6430
COMPUTER READABLE FORM: MEDIUM TYPE: 3.5 inch, 0.8 Mb storage COMPUTER: Macintosh Centris 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: Other nucleic acid
DESCRIPTION: DET Trc SO5/NI
DESCRIPTION: prokaryotic expression vector
                                                                                                                                                                                                                                                    COMPUTER: MacIncosh Centres V. OPERATING SYSTEM: System 7
SOFTWARE: Microsoft Word 6.0.1
SOFTWARE: Microsoft Word 6.0.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US96/05611A
FILING DATE: 02-MAY-1995
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/431,644
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/431,648
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/431,144
FILING DATE: June 7, 1995
APPLICATION NUMBER: 30,399
REPRENCE/DOCKET NUMBER: 30,399
REPRENCE/DOCKET NUMBER: ALX-129
TELEFAX: (203) 255 1400
TELEFAX: (203) 255 1400
TELEFAX: (203) 255 1401
INFORMATION FOR SEQ ID NO: 21:
ENGTH: 5248 base pairs
TENDTH: 5248 base pairs
TENDTH: 5248 base pairs
TENDTH: 5248 base pairs
TENDTH: 5248 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Sim:
Matches 1201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
```

유 ઠે 윰 ò 셤

8 6 ⋧ ద

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                             3663
                                                                                                                                                                                                                                                                                                                               3603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                               3722 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAAACCACCATCAAACAAGAGATTTTC
                                                                                                                                                                                                                                                                                                    GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                       AGGGCAATCAGCTGTTTGCCCCGTCTCACTGGTGAAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                      GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                   AGGGCAATCAGCTGTCTCACTGGTGAAAAAAAAACACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3542 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGACTTT
                                    TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                      <u> ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCCATCAAACAGGATTTTC</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-929-967-1/c
; Sequence 1, Application US/08929967
; Patent No. 5891637
; GENERAL INFORMATION:
; APPLICANT: RUPpert, Siegfried J.W.
; TITLE OF INVENTION: Construction of Full-Length cDNA Libraries
; VORRESPONDENCE 3.16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genenech, Inc.
; STREET: 1 DNA Way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFWARE: Winfratin (Genentech)
CURRENY APPLICATION DATE:
APPLICATION NUMBER: US/08/929,967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             36.3%; Score 1199.2;
99.8%; Pred. No. 0;
cive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P1035R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Dreger R.
REGISTRATION NUMBER: 33,055
REFERENCE/DOCKET NUMBER: P103:
TELECHONICATION INFORMATION:
TELEPHONE: 650/255-3216
TELEFAX: 650/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 5443 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 36.3
Best Local Similarity 99.8
Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3422 GCAC 3419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94080
                                                                                                                                                                                                                                                                                                                               3662
                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                                               3602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                                      961
                                                                                                                                                      901
                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 4143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 4383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 3963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4322 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1262 regregregregrada de a a conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de conservada de c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4; Length 5312;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                              36.3%; Score 1199.2; 99.8%; Pred. No. 0; active 0; Mismatches
TITLE OF INVENTION: gp41 antigen
FILE REFERENCE: 01-1692-A
CURRENT APPLICATION NUMBER: US/10/263,103
CURRENT FILING DATE: 2002-10-02
NUMBER OF SEQ ID NOS: 35
SOFTWARE: Patentin version 3.1
ERD ID NO 35
LENGTH: 5312
                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Artificial
FEATURE:
OTHER INFORMATION: plasmid pET-cer
US-10-263-103-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
```

요

셤

ò

셤

δ g ઠે

ò

g

ò 셤 ઠે g 셤

ઠે

셤

8

셤 ò 임 ઠે

Š

g

ద

ò

ò

; CURRENT APPLICATION NUMBER: US/09/736,457 ; CURRENT FILING DATE: 2000-12-13 ; NUMBER OF SEQ ID NOS: 1864 ; SOFTWARE: FastSEQ for Windows Version 3.0 ; SEQ ID NO 785 ; LENGTH: 5502 ; TYPE: DNA ; ORGANISM: Homo sapien US-09-736-457-785	Query Match 36.3%; Score 1199.2; DB 4; Length 5502; Best Local Similarity 99.8%; Pred. No. 0; Matches 1201; Conservative 0; Mismatches 3; Indels 0; Gaps	Qy 1 CCGACACCATCGATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	Oy 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 12:	Oy 121 GTGTCTCTTATCAGACCGTTTCCCGGTGGTGAACCAGGCCAGCCA	0y 181 CGCGGGAAAAAGCGGCGATGCCGAAGCTGAATTACATTCCCAACCGCGTGGCAC 24	Qy 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC 300 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Qy 301 ACGCGCGTCGCAAATTGTCGCGGGGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360	Oy 361 TGGTGGTGCGAAGGAAGGAAGGCGGCGCGGAAGCCTGTAAAGCGGGGGGGCACAATC 42.	Qy 421 TTCTCGCGCAACGCGTCAGTGATCATTAACTATCGCTGGATGACCAGGATGCCA 480	Oy 481 TTGCTGTGGAAGCTGCACTAATGTTCCGGGGTTATTCTTGATGTCTCTGACCAGA 540	Oy 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGGGTGGGGCTTGGGGGGTACGGGGGTACGGGGGTACGGGGGTACGGGGGTACGGGGGGTACGGGGGGTACGGGGGGTGGAGCATCGGGGGGTGGGGGGTGGGGGGTGGGGGGTGGGGGGGTGGGG	Qy 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCG 660 Db 4077 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 401 Qy 661 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720 Db 4017 CGCGTCTGCGTCTGGCTGGCTGGCTGGCATAAAATATCTCACTCGCAATCAAATTCAGCCGATAG 395	Qy 721 CGGAACGGGACTGGACTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780 1957 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 389	Qy 781 ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATGAGGTGGCGCTGGGCGCAA 840	Qy 841 TGCGCGCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900
Db 4257 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 4198	QY 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGCCCCATTAAGTTCTGTCTCGG 660 Db 4077 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGCCCATTAAGTTCTGTCTCGG 4108	Qy 661 CGCGTCTGCCTGGCTGGCTGGCATABATATCTCACTCGCAATCAAATTCAGCCGATAG 720 D 1	Qy 721 CGGAACGGGAAGGCGACTGGCCATGTCCCGTTTTCAACAAACCATGCAATGCTGA 780 L	Qy 781 ATGAGGGCATCGTTCCCACTGCCATGCTGCTTGCCAACGATCAGATGGGGCCTGGGGCCAA 840 Db 1897 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATGGCGCTGGGCGCAA 3838	Oy 841 TGCGCGCCATTACCGAGTCCGGGCTTGCGCGTTAGGGGATATCTCGGTAGTGGGATACG 900 Db 1837 TGCGCGCCATTACCGAGTTCCGGGCTTGGTGGGGGATATCTCGGTAGTGGGATACG 3778	OY 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	Oy 96.1 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 Db 37.17 GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 3658	OY 1021 AGGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAGAAAACCACCCTGGCGCCCCAATA 1080	Qy 1081 CGCAAACCGCCCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGACAGGTTT 1140 Db 3597 CGCAAACCGCCTCTCCCCCGCGGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 3538	Qy 1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACTAATGTGAGTTAGCTCACTAGT 1200 Db 3537 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTAAGTTAGCTCACTCA	Oy 1201 GCAC 1204 Db 3477 GCAC 3474	ESULT 14 S-09-736-457 Sequence 76 Patent No. GENERAL INI APPLICANT.		APPLICANT: Retter, Marc APPLICANT: Mannion, Jane APPLICANT: Fan, Liqun	

480

4138

4078

900

4018

3958

3898

840

780

3778

900

```
Acececcercecaarrercececcarraaarcreececcearcaacreecacecaece
                                                                                                           3777 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAAGATTTTC 3718
                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                             TIGCTGIGGAAGCIGCCTGCACTAATGTICCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGCAGCGTTC
                                                                                                                                                                                                                                                                                                                          3897 ATGAGGGCATCCTTCCCACTGCGGATGCTGCCAACGATCAGATGGCGCTGGGCGCTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3717 GCCTGCTGGGGCAAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTCGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                            TGGTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                              CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3837 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGCTGCGGATATCTCGGTAGTGGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3597 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGGCACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3, 2005, 02:32:18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Search completed: August
Job time : 357.4 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3477 GCAC 3474
             4437
                                                                                                                     4317
                                                                                                                                                                         4257
                                                                                                                                                                                                                            4197
                                                                                                                                                                                                                                                                                4137
                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                  4077
                                                                                                                                                                                                                                                                                                                                                                                       4017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                       301
                                                                                            361
                                                                                                                                              421
                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                             ò
                                                         qq
                                                                                         8 8
                                                                                                                                   8 6 8 6
                                                                                                                                                                                                                                              8 B 6
                                                                                                                                                                                                                                                                                                                          유
장
                                                                                                                                                                                                                                                                                                                                                                                                                                    8 & B
                                                                                                                                                                                                                                                                                                                                                                               a
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 6 B 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                    3718
                                                                                                            1140
                                                                                                                                                                                                                    3597 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACTTT 3538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                       3777 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                            CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                          GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGGGGTGA
        ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4677 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCGTGTGATGATGCCCCGGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                     JOHERANT: MAIG, TONGTONG
JAPPLICANT: Bangur, Chaitanya S.
JAPPLICANT: Dangur, Chaitanya S.
JAPPLICANT: Lodes, Michael A.
JAPPLICANT: Fanger, Ton
JAPPLICANT: Fanger, Tom
JAPPLICANT: Panger, Tom
JAPPLICANT: Panger, Tom
JAPPLICANT: Respect Marc
JAPPLICANT: Mannion, Jane
JITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
JITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
JITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
JITLE REFERENCE: 210121 4782
JURGER REFERENCE: 210121 4782
JURGER REFERENCE: 2001-07-11
NUMBER OF SEQ ID NOS: 1668
JENGTHARE: FastSEQ for Windows Version 3.0
JENGTHAR: 5502
JENGTHARE: SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 4; Length 5502;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
36.3%; Score 1199.2;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 1201; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                    ; Sequence 785, Application US/09614124B ; Patent No. 6630574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Homo sapien
US-09-614-124B-785
                                                                                                                                                                                                                                                                         GCAC 1204
                                                                                                                                                                                                                                                                                                   GCAC 3474
                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                      -09-614-124B-785/c
                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                              3537
                                                                                                                                                                                                                                                                                                  3477
                                                                                                                                                                   1081
      901
                                                          961
                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                         ద
                                                  8 6
                                                                                                       8 6
                                                                                                                                                         ò
                                                                                                                                                                                    8 8 8 8
                                                                                                                                                                                                                                                                                              셤
      ò
```

8 & 8

ò

8 8 8

음 중.

	AX4315/6 Sequence AY219685 Expressio	AY219688 Expressio AY219689 Expressio AY219687 Expressio	AY219683 Shuttle e AY219684 Shuttle e AY219684 Shuttle e AF177933 Cloning v AF177933 Cloning v	AY302759 Expressio AY289542 Expressio	AR493835 Sequence AR493835 Sequence	AY243506 Cloning v	AX478528 Sequence AX478528 Sequence AB116367 Expressio	AR373251 Sequence		linear PAT 30-AUG-2001			Dalmia,B. expression in plants	SYNGENTA AGRICULTURAL	ני	pMal-Ap3 and zinc finger protein	6; Length 3300; 0; Indels 0; Gaps 0; TGGCATGATAGGGCCGGAAGAGA 60		TATACGATGTCGCAGAGTATGCCG 120 	AGGCCAGCCACGTTTCTGCGAAAA 180 	ATTACATTCCCAACCGCGTGGCAC 240
20 1462.4 44.3 4935 6 AX768200 21 1462.4 44.3 4945 6 AX768202 22 1462.4 44.3 4951 6 AX768203 c 23 1432.4 43.4 6755 12 AF140577	1417.6 43.0 1511 6 1417.6 43.0 4297 12 1417.6 43.0 4359 13	1417.6 43.0 4419 12 1417.6 43.0 4419 12 1417.6 43.0 4968 12	1417.6 43.0 7018 12 1417.6 43.0 7018 12 1417.6 43.0 7509 12 1400.8 42.4 4566 12	1400.8 42.4 6399 12 1400.8 42.4 6587 12 1400.8 42.4 6587 12	1362 41.3 5201 6	1238.4 37.5 4803 12	41 1238:4 37:5 5024 6 42 1237:2 37:5 1922 6 43 4506 12	1204 36.5 4557 6 AR373251	ALIGNMENTS	RESULT 1 AX202430 LOCUS AX202430 DNA DEPINITION Semisore 18 from Patent WO0152620.	AX202430 GI:15392178	KEYWOKUS . SOURCE synthetic construct ORGANISM synthetic construct other sequences; artificial sequences.	Barbas, C.F., Stege, J.T., Guan, X. and Methods and compositions to modulate	ratemin wo upsearch in colour court The Scripps Research Institute (US); DISCOVERY, INC. (CA) Location/Qualifiers	source 1some synthetic construct' /mol_type="unassigned DNA"	/db_xref="taxon:32630" /nofe="Parial sequence of pMa zrpana"	ORIGIN Query Match 100.0%; Score 3300; DB Best Local Similarity 100.0%; Pred. No. 0; Matches 3300; Conservative 0; Mismatches		Qy 61 GTCAATTCACGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGGATATGCCG	Qy 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCA	Qy 181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
5.1.6 Compugen Ltd.		earch time 9276 Seconds (without alignments) 17238.272 Million cell updates/sec	.acgacgttccggactacgct 3300			: 9416466								cted by chance to have a of the result being printed, score distribution.		Description	AX202430 Sequence AX202429 Sequence AX202426 Sequence AX202427 Sequence AX202427 Sequence AX2024344 Sequence AX24144 Sequence	AX377531 Sequence A91965 Sequence 1	AX207294 Sequence AX377532 Sequence AX377512 Sequence AF097412 Expressio	AX378208 Sequence AF031088 Shuttle v AF031813 Expressio CO794769 Sequence	CQ846980 Sequence AX768201 Sequence
GenCore version 5.1. Copyright (c) 1993 - 2005 Comp	OM nucleic - nucleic search, using sw model	Run on: July 31, 2005, 20:22:50 ; Search time (without a 17238.272	Title: US-09-765-555B-18 Perfect score: 3300 Sequence: 1 ccgacaccatcgaatggtgc	Scoring table: IDENTITY NUC Gapop 10.0 , Gapext 1.0	Searched: 4708233 segs, 24227607955 residues	Total number of hits satisfying chosen parameters	Minimum DB seg length: 0 Maximum DB seg length: 200000000	Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries	Ge	1: 9D htg: 3: 9D htg: 4: 9D om: 5: 0D om:			2004	of results predi qual to the score sis of the total		Result No. Score Match Length DB ID	1 3300 100.0 3300 6 AX202430 2 3232.8 98.0 3300 6 AX202429 3 3226.4 97.8 3300 6 AX202426 4 3226.4 97.8 3300 6 AX202427 5 3216.8 97.5 3300 6 AX202428 7 375.8 AX20448	2701 81.8 6648 6 2701 81.8 7475 6 2700 81.8 7475 6	2 2698 81.8 9191 6 3 2676.2 81.1 6724 12	2636.8 79.9 6806 6 2631 79.7 6706 12 2598.2 78.7 6748 12 1609.4 48.8 5558 6	1474 44.7 4700 1462.4 44.3 4921

AUTHORS Barbas, C.F., Stege, J.T., Guan, X. and Dalmia, B. TITLE Methods and compositions to modulate expression in plants JOURNAL Patent: WO 0152620-A 17 26-JUL-2001; The Scripps Research Institute (US); SYNGENTA AGRICULTURAL DISCOVERY, INC. (CA) FEATURES Location/Qualifiers source /organism=synthetic construct" /mol type="unassigned DNA" /db_xref="taxon:32630" /note="Partial sequence of pMal-m4 and zinc finger protein ZFPm4"	Query Match 98.0%; Score 3232.8; DB 6; Length 3300; Best Local Similarity 98.7%; Pred. No. 0; Matches 3258; Conservative 0; Mismatches 42; Indels 0; Gaps 0;	1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATGCGCCCGGAAGAGA 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGCCATGATGCGCCCGGAAGAGA 61 GTCAATTCAGGGTGGTGAATGTGAAACCTTATACGATGTCGCAGAGTATGCCG 61 GTCAATTCAGGGTGATGTGAAACGTAACGTTAAACGATGTCGCAGAGTATGCCG	121 GTGTCTTTATCAGACCGTTTCCCGCGTGGTGACCAGCCCAGCCACCTTCTCGAAAA 121 GTGTCTTTATCAGACCGTTTCCCGCGTGGTGAACAGCCAGC	181 CGCGGGAAAAAGCGGCGTGGAACGGAGCTGAATTACATTCCCAACGGGGGCGGGGGAGCTGGGGGGGG	DB 241 AACAACTGGCGGGCAAACAGTCGTTGCTGTTGCCGCTTCCAGTCTGGCCTGC 300 QY 301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGC 360 DB 301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360	A 11 TGCTGGCGCTGATGGTAGAACGAAGCGCGCTCGAAGCCTGTAAAGCGGCGCGCACAATC 420	421 TICICGCGCAACGCGTCAGTGGGCTGATCATTAACTGTATCCGCTGGATGACCAGGATGCCCAGGATGCCCAGGATGCCCAGGATGCCCAGGATGCCCAGGATGCCCAGGATGCCCAGGATGCTGTGATGTTCTGATGTTCTTGATGTTCTGACCAGAAGTTTTTTTT	541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGCTGGGCGTGGAGCATC	OY 601 TGGTCGCATTGGGTCACCAGCAAATCGCGGTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG 660	Oy 661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720	Oy 721 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780 Db 721 CGGAACGCGACTCGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780	781 ATGGGGGGTTCCCATGCGATGCGAACGATCAGATGGCGAACGCAACGATGGGCGCTGGCGCAA
Oy 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 Db 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 C 2461 TTGGCGAAAGATCCACGTATGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Qy 2521 CCGAACATCCCGCAGATGTTCTGGTATGCCGTGCTACTGCGGTACTACAGCC 2580 Db 2521 CCGAACATCCCGCAGATGTTTCTGGTATGCCGTGCTACTGCGGTACTACAGCC 2580 Db 2521 CCGAACATCCCGCAGATGTCCGCTTTTCTGGTATGCCGTGCTACTGCGGTATCAACGCC 2580	Oy 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 Db 2581 GCCAGCGTCGTCAGACTGTCGATGAAGCCTGAAAGACGCGCAGACTTATTTTTTTT	Db 2641 AACAACAACAATAACAATAACAACAACCACCTCGGGATCGAGGGATTTCAGAATTC 2700 Qy 2701 GGATCCTCTTCTCTGTGGCCCAGGCGCCTTCGAGCCCGGGGAGAAGCCCTATGCTTGT 2760 Db 2701 GGATCCTCTTCCTCTGTGGCCCAGGCGGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT 2760	Oy 2761 CCGGAATGTGGTAAGTCCTTCAGCCAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC 2820 Db 2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCAC 2820 Oy 2821 ACGGGTGAAAACCGTATAAATGCCAGAGAGTGCGGCAAATCTTTAGCCAGCAAC 2880	Db 2821	2941 AAGTCTTTCAGCCAGTCCAGCAACCTGGTGCGCCACCAACGTACTCACACCGGGG	CCCTATGCTTGTCGGAATGTGGTAAAAGTCCTTCAGCACCAGGTGGCTCCTTGGTTAGACACAGTGGCTTGGTTAGACACAGTGGCTCCTTGGTTAGACAC	Db 3061 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC 3120 Qy 3121 CAGCGCGCCCACCTGGAACGCCATCAACGCACACACAGAAGCCATACAAATGT 3180 Db 3121 CAGCGCGCCCACCTGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180	3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC 1181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC	Oy 3241 ACCGGTAAAAACTGGTGGCCGGCCGCCGGTACCGGTTCCGGACTACGCT 3300 DD 3241 ACCGGTAAAAAACTAGTGGCCAGCCGGCCAGTACCGGACGACGTTCCGGACTACGCT 3300	AX202429	GI:15392177	SOURCE synthetic construct ORGANISM synthetic construct Other semisores, srtificial semisores

. synthetic construct synthetic construct other sequences; artificial sequences.

REFERENCE

361 TGGTGGTGTCGATGGTAGAACGAAGCGGTCGAAGCCTGTAAAGCGGCGTGCAATC 420 361 TGGTGGTGTCGATGGTAGAACGAAGCGGTCGAAGCCTGTAAATTTTTTTT	661 CGCGTCTGCGTCTGCGTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 721 CGGAACGGGAAGGCGATGGCCATGTCCGGTTTTCAACAAATTCAGCCGATAG 720 721 CGGAACGGGAAGGCGACTGGCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780 721 CGGAACGGGAAGGCGACTGGCAATGCTGCAGTTTTCAACAAACCATGCAAATGCTGA 780 721 CGGAACGGGAAGGCGACTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780 781 ATGAGGGCATCGTTCCCATGCCATGTCGGATTCACAAACCATGCAAATGCTGA 780 781 ATGAGGGCATCGTTCCCATGCCATGCTGCAACAGATCAGATGCGAA 840 841 TGCGCGCATTACCGAGTCCGGGCTGGCGGTTGCTGGGATATCTCGGTAGTGGGATACG 900 841 TGCGCGCCATTACCGAGTCCGGGCTGGCGGTTGGTGGGATATCTCGGTAGTGGGATACG 900 841 TGCGCGCATTACCGAGTCCGGGCTGGCGGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 842 TGCGGCCATTACCGAGTCCGGGCTGGCGGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 843 TGCGGCCATTACCGAGTCCGGGCTTGGTGCGGATATCTCGGTAGTGGGATACG 900 844 TGCGGCCCATTACCGGGCTGGCCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 845 TGCGCCCATTACCGGGCTGGCCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 846 TGCGGCCATTACCGGGCTGGTGGTGCGGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 847 TGCGGCCATTACCTGGTGCTGCTTGCTCCAGGGCCTCAAACGGATTTTC 960 848 TGCTGCTGGGGCAACCGGTGGACCCGTTTGCTGCAGCCCACCAGGCGGTGA 1020 849 TGCTGCTGCTGGGGCTGCACCCTTGCTGCAGCCGGTGA 1020 841 TGCGCCCATTACTTGTTATATCCCGCCGTTAACCACCCATCAAACGGATTTTC 960 841 TGCGCCCATTACTGTTATATCCCGCCGTTAACCACCCATCAAACGGATTTTC 960 841 TGCGCCCATTACTGTTATATCCCGCCGTTAACCACCCTCTCAAACGGATTTTC 960 841 TGCGCCCATTACTCTCTCAAGGCCCAGGCGGTGA 1020 841 TGCGCCCATTACTTGTTATATCCCGCCGTTAACCACCCATCAAACGGATTTTC 960 841 TGCGCCCATTACTTGTTATATCCCGCCGTTAACCACCCATCAAACGGATTTTC 960 841 TGCGCCCATTACTTGTTATATCCCGCCGTTAACTCTCTCAAGGCCAACGGTGAAACCACTGGACCCAACAACTTTCTTCTTCTTTTCTTTTCTTTC	1021 AGGCAATCAGCTGTTGCCCGTCTTCATTAAAAAAACCACCTGGCGCCCCAATA 1080 1081 CGCAAACCGCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGCACGCAC
6 6 6 6 6 6 6 6	8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8
	from Pates GI:153921 Dnstruct nces; artif composition 152620-A Research 152620-A Research 3100 3100 3100 2xref="tax="a	5; Indels 3GCATGATAGCG HINCHINIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII

Decade Control Contr	RESULT 4 AX202427 LOCUS SQUENCE 15 from Patent WO0152620. AX202427
### STANDARD CONTROLLED	221 GCARGCTCAACATCAACAGCAACTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCACAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCGCAAAGTGAATTATGGTGTAACGGCGACCTTC 2280 2281 AAGGGTCCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT 2340 2341 CCGAACAAAGACTGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA

1021	GAGATICCOGGCTGGATAAAAACTGAAAGCTAAAGAGGCGCTGATGTACAAGGCTGATGTACAAGGCGCGCTGATGTACAAGCTGAAAGGTAAGAGGCGCGCTGATGTTCAAC 198 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 204 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 204 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATGACGCGGAAAGCG 210 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATGACGCGGAAAGCG 210 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATGACGCTGGCGCGAAAGCG 210
6 4 6 4 6 4 6 4 6 4 6 4 6 4 6 4 6 4 6 4	86868
Desiry March Best Local Statistics 97.84; Score 2228.4; DB 6; Length 3300;	QY 841 TGCGCGCATTACCGAGTCCGGGTTGCTGCGGATATCTCGGTAGTAGGATACG 900 Db 841 TGCGCGCATTACCGAGTCCGGGTTGCTGCGGATATCTCGGTAGTGGGATACG 900 QY 901 ACGATACCGAGAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC 960 Db 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC 960 QY 961 GCCTGCTGGGAACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC 960 QY 961 GCCTGCTGGGGCAAACCAGCGTGGAACCGCTTGCTGCAACACACCATCAACAGGATTTTC 960

Oy 3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC 3240	RESULT 5 AX202428 LOCUS LOCUS DEFINITION Sequence 16 from Patent WO0152620. ACCESSION AX202428 VENESTON AX202428.1 GI:15392176	synthetic construct synthetic construct other sequences, artificial sequences 1 Barbas, C.F., Stege, J.T., Guan, X. and I Methods and compositions to modulate Patent: WO 0152620-A 16 26-JUL-2001;	AGRICULTURAL	/noce="Partial sequence of pMal-m3 and zinc finger protein ZFPm3" ORIGIN Query Match 97.5%; Score 3216.8; DB 6; Length 3300; Best Local Similarity 98.4%; Pred. No. 0;	; Conservative CCGACACCATCGAATGGTGC	61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGCGCAGAGTATACGGTGTGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG [Db 241 AACAACTGGGGGCAAACAGTCGTTGGTTGGCGTTGCCAGTCTGGCCCTGC 300 301 ACGGGCGTGGCAAATTGTCGCGGATTAAATCTCGCGGATTGAGTGGCGAATCAGATGAGTGAG	Oy 361 TGGTGGTGTCGATGGTAGAACGAAGCGGTCGAAGCCTGTAAAGCGGGGGGGG	Qy 421 TTCTCGCGCAACGCGTCAGTGACCTTAACTATCGCTGGATGACCAGATGCCA 480	OY 481 TIGCIGIGGAAGCIGCCTGCACTAATGTTCCGGCGTTATTCTTGATGTCTCTGACCAGA 540
101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGCCGATTAC 2160 1 1 1 1 1 1 1 1 1	2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2281 AAGGGTCAACCATCCAACCTTCGTTGGCGTGTGTGAACGGTATTAACGCCGACGT 2340 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCACAATATAAACGCCGCCAGT 2340	AGGTCTG AGGTCTG AGGTCTG AGGTCTG		2521 ¢CGAAČATCCCGCAĞATGTCCGCTTTCTGGTACCGTTGCGTACTGCGTTGACGCC 2580 2581 GCCAGCGGTCGTCAGACTGTGCGATGAAGACGCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640		2701 GGATCCTCTTCTCTGTGGCCGGCGCCCTCGAGCCCGGGAAACCCTATGCTTGT 2760 2701 GGATCCTCTTCTCTGTGGCCCAGGCGGCCCTCGAGCGCGGGAAGCCCTATGCTTGT 2760 2701 GGATCCTCTTTCTCTGTGGCCCAGGCGCCCTCGAGCGCGGGAGAAGCCCTATGCTTGT 2760 2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCCACCCA	CGGGAATGTGGTAAGTCCTTCTCTGAGGCTCTCACCTGGTGGGCCACCAGGGTACCCAC 282 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGAAATCTTTTAGCCAGTCAGAGAAC 288	2821 ACGGGGGAAAAACGTATAAATGCCCAGAGGGGAATCTTTTAGCCAGTCCAGCAAC 2880 2881 CTGGGGGCGATGAACGCACTCATACTGGGGAGAAGCCATACAAATGTCGC 2940 2881 CTGGTGCGCCATCACCACCACATACTGGCGAGAAGCCATACAAATGTCGC 2940 2881 CTGGTGCGCCATCACCACACATACTGGCGAGAAAGCCATACAAATGTCGC 2940			 TTTAGC AAATGT	

ACCOGNATTRANGTCACCGTTGAGCATTCCGGATAAATTGGAAAAGAAATTTCCCCACAGGTT 1 GCCGCAACTGGCGATGAGCATTCCGGATAAATTGGAAAAAAAA	25 25 25 25 25 27 27 27 27 27 27 27 27 27 27 27 27 27
6 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4	8 8 8 8 8 8 8
CACCCATCAACAGTATTATTTTCTCCCATGAAGAGGGACCCACTGGGGGTCGAGCATC CACCCATCAACAGTATTATTTTCTCCCATGAAGAGGACACCGACTGGGGGTCGAGCATC CACCCATCCAACAGTATTATTTTCTCCCATGAAGACGGTACGCCACTGGGGGGTCGAGCATC CACCCATCGAATTCGGTTCACCACCAATATTATTTTCTCCCAATTCAACCAATTCACCCAATTCACTCTGG CACCTCTGCGGTTGGGTTGGCTTGGCAATATTATTTCTCCCCAATTCAACACCAATTCACCCAATTCACCGAATTCACCGAATTCACCGAATTCACCGAATTCACCGAATTCACCGAATTCACCCAATTCACCGAATTCACCGAATTCACCGAATTCACCGAATTCACCGAATTCACCGAATTCACCGAATTCACCGAATTCACCGAATTCACCAATTCACCAATTCACCAATTCACCAATTCACCAC	CTGGCAAATATTCTGAAATGACTGTTGATCATCGCCTCGTTAATGTGTGGGA 1 ATTGTGAGGGGATAACAATTCACACAGGAAACAGCCAGTCGTTTAGGTGTTTTCACGA 1 ATTGTGAGGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTTCACGA 1 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCGTTTTTGAGGTGTTTTTTAGAACTGAAACTGAAACTGGTGTTTTTTTT

ò

음 장

à

g

ઠે ద ò 용

셤

8

ò 음 장 윰

ઠે 요 ठ 용

```
AKEFLENYLLTDEGLEAVNKDKPLGAVALKSYEEELAKDPRIAATMENAQKGEIMPNI
MOMSARWYANTAVINAASORQYUDEALKAAQTNASSNNNNNNNINGIEGRISERS
SSS BEKPPRLVGGPWAASVEEGYRRALDFAVGEYNKASSNNNNNNNINGIEGRISERS
AGVNYFLDVELGRITCTKTQPNLDNCPFHDQPHLKRKAFCSPQIYAVPWQGYWTLSKS
AFYCHGECPPLADHTHHHOAETAQAKHKQRKRLKSSCKRHPLYVDFSDVGNNDWIYAPPGYH
AFYCHGECPPPLADHTSTHAIVOTULWSTNHAIVQTLVNSVNSKIPKRACCVPTELSSISMLYLDENEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAAGCGGCGATGGCGGGGGCTCAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 TGGTGGTGCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ccGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THECHELLERIC TECCHECACTAATETTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301 Acececcercecaarrerceceecarraaarcreececearcaacreeceaece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGTCTGCGTCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601 redricecarresercaccascaaarcececrerrasecesecearraasrrereres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                               Length 7373;
                                                                                                                                                                                                                                                                                                                                                                         ..
0
                                                                                                                                                                                        /note="Faktor Xa Protease /position=388 (AMINO ACIDsequenz)"
3067. .3108
                                                                                                                                                                                                                                      3067. .3108
/note="/spacer zwischen Cystatin C und BMP-2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22; Indels
                                                                                                                                                                                                                                                                                                                                 DB 6;
                                                                                                                                                                                                                                                                                                                          Score 2705.8;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                          82.0%;
99.2%;
                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 99.2
Matches 2719; Conservative
                                                                                                                                                                       2689
                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                      misc feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Agent for postoperative use after the removal of bone tumours
Agent for postoperative use after the removal of bone tumours
Loatent: WO 0198756-A 1 25-OCT-2001;
Depuy Biotech Jana GmbH (DE)
Location/Qualifiers
1. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7373
I. 7374
I. 7374
I. 7375
I. 7375
I. 7375
I. 7376
I. 7376
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7377
I. 7
                                2760
                                                                            2820
                                                                                                                                                                   2880
                                                                                                                                                                                                                                                         2940
                                                                                                                                                                                                                                                                                                                                                                                       3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3060
                                                                                                                                                                                                                                                                           3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /trainlation="MKTBEGKLVIWINGDKGYNGLAEVGKKFEKDTGIKVTVEHPDKL
EEKPPQVAATGDGPDIIFWAHDRFGGYAQSGLLAEITPDKAFQDKLYPFTWDAVRYNG
KLIAYPIAVEALSLIYNKDLLDNPPKTWEEIPALDKELKKGKSALMENDGEPFTWP
LIAADGGYAEKYENGYYDIKOGYODNAGAKAGLTELVDLIKKHMANDTDYSIAEAAB
NKGETAMTINGPWAWSNIDTSKVNYGVTVLPTFKGQPSKPFVGVLSAGINAASPNKEL
                                                                                                                                                                                                     ACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGCGGCTCC 2880
                                                                                                                                                                                                                                                                                                                                        AAGTCTTTCAGCCAGTCCAGCAACCTGGTGCGCCACCAACGTACTCACACCGGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                              CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT 20-NOV-2001
CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                            ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                  CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACTGCCGCGACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cecnarientescasanistasinasinescentrasecasasecereseresecae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCGTACCCACACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3121 CAGCGCGCCCACCTGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      other sequences, artificial sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /codon start=1
/transI table=11
/protein_id="CAD12160.1"
/db_xref="GI:17044833"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1 from Patent W00178756. AX284144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AX284144.1 GI:17044832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         synthetic construct
synthetic construct
                                                                                                                                                                                                                                                                                                                                                                                2941
                                                                                                               2761
                                                                                                                                                            2821
                                                                                                                                                                                                                                                                                            2881
                                                                                                                                                                                                   2821
                                                                     2761
                                                                                                                                                                                                                                                  2881
                                                                                                                                                                                                                                                                                                                                        2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3181
                         2701
                                                                                                                                                                                                                                                                                                                                                                                                                              3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 6
AX284144
LOCCUS
DEFINION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EATURES
```

OY 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGACGCGCTGATGTTCAAC 1980	Oy 1981 CTGCAAGAACCGTACTTCACCTGGCGGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040	QY 2041 TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 DD 2041 TATGAAAACGCCAAGTACGACATTAAAGACGTGGGGGTGGATAACGCTGGCGCGAAAGCG 2100		Qy 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 Db 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220		OY 2281 AAGGGTCAACCATCCAAACCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340	Qy 2341 CCGAACAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTG 2400 Db 2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGGAAACTATCTGCTGACTGA	Qy 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 Db 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	OY 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 DD 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	OY 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	Oy 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 Db 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640		Oy 2701 GGATCCTCTCTGTGGCCCAGGGGCCTCGAGCCGG 2741		SSION AX172306 ION AX172306 ION AX172306.1 GI:14597487 RRDS	SOURCE Synthetic Construct ORGANISM synthetic construct other sequences; artificial sequences. REFERENCE 1	AUTHORS Goubin-Gramatica,F., Ducommun,B. and Prevost,G. TITLE Method for obtaining human cdc25 phosphatases and method for identifying human cdc25 phosphatase modulators JOURNAL Patent: WO 0144467-A 5 21-JUN-2001; SOCIETE DE CONSEILS DE RECHERCHES ET D'APPLICATIONS SCIENTIFIQUES
TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900	ACGUEGCCCATTACCGAGGTCCGGGGTTGGTGGGGGATATCTCGGTAGTGGGGATATCG 900 ACGATACCGAAGACAGGTTATATTCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 ACGATACCGAAGACAGTTATATTCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 ACGATACCGAAGACAGTTATTATTTCCGCCGTTAACCACATCAAACAGGATTTTC 960	ACGATACCGAAGACAGCICAIGITATAICCCGCGTTAACCACATCAAACAGGATTTIC 560 GCCTGCTGGGGCAAACCAGGTGGACGGCTTGCTGCAGACTCTCAGGGCCAGGCGGTGA 1020 GCCTGCTGGGGCAAACCAGGTGGACGGCTTGCTGCAACTCTCAGGGCCAGGCGGTGA 1020	ATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAACCTGGGGCCCAATA 1080 ATCAGCTGTTGTCCCGTCTCACTGGTGAAAAAAAAAAAA	CGCAAACGGCGTCTCCCGGGGGTTGGCGGATTCATTAATGCAGGTGGCACGACGACGTTT 1140	CCCACTGGAAAGCGGCAGCAGCAATTAATGTGAGTTAGCTCACTCA	GCACAATTCTCATGTTGACAGCTTATCATCGACTGCACCGTGCACCAATGCTTCTGGCG	TCAGGCAGCCATCGGAAGCTGGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320	TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 TGTCGCTCAACGCCCAACATCTTCTGAAAATGTTTTTTTGCGCCCAACATCATAAACGCTT 1380	CTGGCAAATATTCTGAAATGAGCTGTTGACAATAATCATCGGCTCGTATAATGTGTGGA 1440 [HIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	ATTGTGAGGGATAACAATTTCACACAGAAACAGCCAGTTCGTTTAGGTGTTTTCACGA 1500	GCACTTCACCAACAAGGACCATAGATATGAAAACTGAAGGAAG	ATTAACGGGATAAAGGTATAACGGTCTCGCTCAAGTCGGTAAGAATTCGAGAAAGAT 1620	ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCCATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCCGAACCCGCCAAAAACCTGGGAA 1920

/note="Plasmid pMAL-c2x"	Query Match 81.8%; Score 2701; DB 6; Length 6648; Best Local Similarity 99.8%; Pred. No. 0; Matches 2704; Conservative 0; Mismatches 5; Indels 0; Gaps 0;	Oy 1 CCGACACCATGAATGGTGCAAAACCTTTCGGGTATGGCATGATAGGGCCCGGAAGAGA 60	Qy 61 GTCAATTCAGGTGAATGTGAAACCAGTAACGTTATACGATGTGGCAGAGTATGCGG 120	Qy 121 GTGTCTCTTATCAGACCGTTTCCCGGTGGTGAACCAGGCCAGCCA	Qy 181 CGCGGGAAAAAGCGGCGGAGCGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 Db 181 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	Qy 241 AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC 300 241 AACAACTGGCGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300	Qy 301 ACGCCCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCGGATCAACTGGGTGCCAGCG 360 1	Qy 361 TGGTGGTGGATGGTGGAACGAGCGTTGGAAGCCTGTAAAGCGGCGGTGCACAATC 420 1	Oy 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480 Db 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACAGGATGCCA 480	Oy 481 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540 Db 481 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540	Qy 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGACTTGGGGCGTGGAGCATC 600 bb 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGAGCATTCGGGCGTGGAGCATC 600	Oy 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660	Qy 661 CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAT	Qy 781 ATGAGGCATCGTTCCCACTGCGATGCTTGCCAACGATCAGATGCGCTGGGCGCAA 840 Db 781 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATGGCGCTGGGCGCAA 840	Qy 841 TGCGCGCCATTACCGAGTCCGGGCTTGGTGGTGGGGGATATCTCGGTAGTGGGATACG 900	841 IGGGGCATIACCGAGICCGGGGCIGCGGTGCGGAAIAICICGGGAGIAGIGGGAAIACG 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGATTTTC	901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC	Qy 961 GCCTGCTGGGGCAACCAGGTGGACGGTTGCTGCAACTCTCTCAGGGCCAGGGGGA 1020
	OY 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 	OY 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACCGGATTAC 2160	Qy 2161 TCCATGGCAGAAGCTGCCTTTAATAAAGGGAAACAGGGATGACCATCAACGGCCCGTGG 2220	OY 2221 GCATGGTCCAACATCGACAAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTC 2280	Oy 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTCTGAGCGCAGTATTAACGCCGCCAGT 2340 Db 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGCTGCAGGTATTAACGCCGCAGT 2340	OY 2341 CCGAACAAGGCTGGCAAAAGGTTCCTCGAAAACTATCTGCTGACTGA	QY 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	OY 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAAGGCCCAGAAAGGTGAAATCATG 2520	QY 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	QY 2581 GCCAGGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	OY 2641 AACAACAACAACAATAACAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700	Qy 2701 GGATCCTCT 2709 bb 2701 GGATCCTCT 2709	RESULT 8 AX377531 6648 bp DNA linear PAT 18-MAR-2002 LOCUS DEFINITION Sequence 8 from Patent W00212553. ACCESSION AX377531 VERSION AX377531. GI:19573717	ALEYWOLDS . SOURCE Synthetic construct ORGANISM synthetic construct other sequences; artificial sequences.	RS Kappel, A., Polakowski, T., Pignot, M., Windhab, Muth, J. Math, J.	JILLS MECHON LOT RECECTING MUCATIONS IN NUCLECTINE BEQUENCES JOURNAL PATENT: WO 021253-A 8 14-FEB-2002; Nanogen Recognomics GmbH (DE) FEATURES Location/Oualifiers	rce 1	/mol_type="unassigned DNA" /db_xref="taxon:32630"

g

2101 GGTCTGACCTTCCTGATTANAMCANACATCATGATGAGACACCGATTAC 2160	RESULT 9 A91965 LOCUG A01965 LOCUG ACCESSION A91965 A91965 A91965 LOCUG ACCESSION A91965 A91966 APICERSTON A91965 A91966 APICERSTON A91965 APICERSTON A91965 APICERSTON A91965 APICERSTON A91965 APICERSTON A91965 APICERSTON A91965 APICERSTON APICE
	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACCGCTTTGGTGGCTAC 1740 1681 GCGCCAACTGGCGATGGCCTGACATTATCTTCTGGGCCACCGCTTTGGTGGCTAC 1740 1681 GCGCAACTGGCCAACGCTTTGGTGGCTAC 1740 1741 GCTCAATCTGGCCGATGGCTGAATCTCTCTGGGCCACCGCTTTGGTGGCTAT 1800 1741 GCTCAATCTGGCCGATGGCTGAAATCACCCGGACAAAGCGTTCCAGGACAGCTGTT 1800 1741 GCTCAATCTGGCCTGAAATCACCCGGACAAAGCGTTCCAGGACAGCTGTT 1800 1801 CCGTTTACCTGGGATGCCTTACAAAACCGCTAAAACGCGTAACGCTGATTGCTTACCTGGGATGCCTGAAATCACAGGCAAACCTGAATTGCTTACCTGGGATGCCTGATTATAAAAAACGCTAACAAGAACCTGCAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAGATTGCTGCCGAAACCTGCAAAAACTGGAAACCTGCAAAAACTGGAAACCGCCCAAAAACCTGGGAA 1920 191 1861

6 B 6

음 중

8 & 8

8 6 8 6

8 ठ

ORIGIN

8 6 8

6 8 6、

Oy 2401 GAAGGGTTAATAAAGACAAACCGCTGGGTGCCGTGAAGTCTTACGAGGAAGAG 2460 Db 2401 GAAGCGGTTAATAAAACGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 Qy 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Qy 2521 CCGAACATCCCGCAGATGTCCGCTTCTGGTACTGCGGTGCTACTGCGAAATCAACGCC 2580 Db 2521 CCGAACATCCCGCAGATGTCCGCTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580 Qy 2581 GCCAGCGGTCGTCGATGAAGACCCTGAAAGACGCGCAGATTCGAGCTC 2640 Db 2581 GCCAGCGGTCGTCGATGAAGACCCTGAAAGACGCGCAGATTTCGAGCTC 2540 Qy 2681 GCCAGCGGTCGTCGATGAAGACCCTGAAAGACGCGCAGATTTCGAGCTC 2540 Db 2681 AACAACAACAACAACAAATAACAACAACCCCGGGAAGGAA	RESULT 11 AR207294 LOCUS LOCUS DEFINITION Sequence 1 from patent US 6372883. ACESSION AR207294.1 GI:21506162 KERWORDS CONTROL RESULT 11	ONGANISM Unknown. ONGANISM Unknown. Unclassified. REFERENCE I (bases I to 7475) AUTHORS Attwood,M.Richard., Hurst,D.Nigel., Jones,P.Stephen., Kay, P. Brittain., Raynham, T.Michael. and Wilson,F.Xavier. TITLE Antiviral medicaments JOURNAL Patent: US 6372883-A 1 16-ARR-2002; FEATURES I. 7475 // Organism="unknown"	ORIGIN Query Match Query Match Query Match Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy	61 GTCAATTCAGGGTGGTGAAACCAGTAACGTTATACGATGTGGCGGGGTGTGCCGGGGTGTGGCGGGGTGGTGGCGGGGGG	181 CGCGGGAAAAGTGGAGCGGCGATGGCGGGGTGAATTACATTCCCAACGGGGGCGCGTGGCACGGGGGGAGCGGGGGGGG	Qy 301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAATTCCCACAGGTT 1680	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800	GAGATCCCGGCGCTGGTTATAACAAAGCGAAAGGTAAGAGCGCCTGATGTTCAAC 1 GAGATCCCGGCGCTGATGTTCAAC 1 GAGATCCCGGCGCTGATGTTCAAC 1 GAGATCCCGGCGCTGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1 CTGCAAGAACCGTGCTGATGCTTCAC 1 CTGCAAGAACCGTACTTCACCTGGCGCGCTGATTGCGTTCAAC 2 CTGCAAGAACCGTACTTCACCTGGCGCGCTGATTGCGTTCAAC 2 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTTCACGTTCAAG 2 CTGCAAGAACCGTACTTCACCTGCCGCCGCTGATTGCTTCAAG 2 CTGCAAGAACCGTACTTCACCTGCCGCCGCTGATTGCTTCACGTTCAAG 2 CTGCAAGAACCGTATTGCGTTCAAG 2 CTGCAAGAGAACCGTATTGCGTTCAAG 2 CTGCAAGAGAACCGTATTGCGTTCAAG 2 CTGCAAGAGAACCGTATTGCGTTCAAG 2 CTGCAAGAGAACCGTACTCAAG 2 CTGCAAGAGAACCGTATTGCGTTCAAG 2 CTGCAAGAGAACCGTATTGCGTTCAAG 2 CTGCAAGAGAACCGTATTGCGTTCAAG 2 CTGCAAGAGAACCGTATTGCTTCAAG 2 CTGCAAGAGAACCGTATTGCGTTCAAG 2 CTGCAAGAACCGTAACCGTTCAAG 2 CTGCAAGAACCGTAACCGTTCAAG 2 CTGCAAGAACCGTAACCGTAACCTTCAAG 2 CTGCAAGAACCGTAACCTTCAAG 2 CTGCAAGAACCGTAACCTTCAAG 2 CTGCAAGAACCGTAACCTTCAAG 2 CTGCAAGAACCGTAACCTTCAAG 2 CTGCAAGAACCGTAACCTTCAAG 2 CTGCAAGAACCGTAACCTTCAACACTAACCTTCAACACACAC	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCTGGATAACGCTGGCGGAAAGCG 2100 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAATGAATG	TCCATCGCAGAAGCTGCCTTTAATAAAGCGAAACAGCGATGACCATCAACGGCCCGTGG [2281 AAGGTCAACCATCCAAACCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTGGCGTGGCTGCCAGGCTATTAACGCCGCCCACGT 2340 2341 CCGAACAAAGGGTGGCTTGGTTGGTGGTTGCTGGTGATTAACGCCGCCAGT 2340 2341 CCGAACAAAGAGTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA

1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680

6 6 6

8 8 6 8 6 8 6 8

```
AF097412 6724 bp DNA circular SYN 28-JAN-2002
Expression vector pMBP-parallell, complete sequence.
AF097412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product="lac_repressor"
/protein_id="lac_repressor"
/brotein_id="lac_repressor"
/brot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LIAADGGYAFKYENGKYDIKDVGVDNAGAKAGLTFLVDLIKNKHMIDTTDYSTAFF
KRETAMTINGPMAWSNIDTSKVNYGVTVLPTFKGQPSKPFVGVLSAGINAASPNKEL
AKEFLENYLLTDEGLEAVNKDKPLGAVALKSYEBELAKDPRTAATMSNAQKGEIMPNI
PONSAFWYANTLATNAASGRQTVDEALKDAGTNSSSNNNNNNNNLGIDTTENLYF
QGAMDPEFKGLRRRAQLVRPLSNLEPAVSRHAVPSLALAVVLQRRDWENPGVTQLNRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /translation="MKIEEGKLVIWINGDKGYNGLAEVGKKREKDTGIKVTVEHPDKL
EEKPPQVAATGDGPDIIFWAHDRFGGYAQSGLLAEITPDKAFQDKLYPFTWDAVRYNG
KLIAYPIAVEALSLIYNKDLLPNPPKTWEEIPALDKELKAKGKSALMFNLQEPYFTWP
                                                                                                                                                                                                      Expression vector pWBP-parallell other sequences; artificial sequences; vectors.

(bases I to 6724)
Sheffield, P., Garrard, S. and Derewenda, Z.
Overcoming expression and purification problems of RhoGDI using a family of 'parallel' expression vectors
Protein Expr. Purif. 15 (1), 34-39 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           spacer region'
                                                                                                                                                                                  Expression vector pMBP-parallell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /codon_start=1
/transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note="protein
                                                                                                                                     GI:3983120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2689. .2709
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2633. .2688
/gene="malE"
                                                                                                                                       AF097412.1
                                                                                                                                                                                                                                                                                                                                                                            99150479
10024467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      promoter
                                                                                DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                      ORGANISM
               RESULT 13
AF097412
                                                                                                                                                                                                                                                                                 AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                            LOCUS
                                                                                                                                                         1800
                                                                                                                                                                                                      1860
                                                                                                                                                                                                                                                                                                   1920
                                                                                                                                                                                                                                                                                                                                                1920
                                                                                                                                                                                                                                                                                                                                                                                                1980
                                                                                                                                                                                                                                                                                                                                                                                                                                             1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACAAAGATGAATGCAGACACCGATTAC 2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TATGAAAACGCCAAGTACGACATTAAAGACGTQGGCGTGGATAACGCTGGCGCGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGGCAACTGGCGCATGACATTATCTTCTGGGCACACGGCTTTTGGTGGCTAC
                           1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                             1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT
                                                                                                                                                                                                                                                                                         GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                      GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                              CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACACAGAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TIGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCAGCGGTCGTCACACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2641 AACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGATCC 2706
  1681
                                                  1691
                                                                                                                                                                                            1801
                                                                                                                                                                                                                                                                                         1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                                                                                                         1861
                                                                                                                                                                                                                                                                                                                                                                                      1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2701
```

g

ద

ò

ద

8 6

8 8

6 6 6 6 6 6 6 6 6 6 6

음 강 음.

ò

		1021 AGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAAGCAACCACCTGGGGCCCAATA 1080	1141 CCCGACTGGAAAGCGGCAGTGAACGCAATTAATGTGAGTTAGCTCACTCA	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGGG 1260 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320	TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT	1381 CTGGCAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGGA 1440 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 1441 ATTGTGAGCGATAACAATTTCACACAGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500	GCACTICACCACCAGGACCATAGATTATGAAAATCGAAGATGAAACTGGTAATCTGG GCACTTCACCAACAAGGACCATAGATTATGAAAATCGAAGAAGATGAAACTGGTAATCTGG ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATGAAACTGGAAGAAATTCCCACAGGTT 1680	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800 1801 CCGTTTACCTGGGATGCCGTACGTTACAAGGCTGATTGCTTACCCGATCGCTGTT 1860
Similari 8; Cons CCGACAC CCGACAC GTCAATT GTGTCTC CGCGGGA AACACG ACGCGCC TGCTGC TTTCTCGC	8 8 8 8 8 8 8 8	8 6 8	8 8 8	ପ ଦି ଘ	8 8 8	8 6 8 6	8 6 8 8	6 6 6 6	% a %
6 6 6 6 4 4 4 4 4 6 6 6 6 6 4 4 4 4 4 6		81.1%; Score 2676.2; DB 12; Length 6724; Similarity 99.9%; Pred. No. 0; B; Conservative 0; Mismatches 3; Indels 0; Gaps CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	CCGACACCATCGAATGGTGCAAAACCTITTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTTGCCG		AACAACTGGGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTGCCCTGC ACGCGCCGTCGCAAATTGTCGCGGGCGATTAAATCTCGGCCGATCAACTGGGGTGCCAGGG	ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCCACGCG TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCCAATC TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC		CACCCATCAACAGTATTATTCTCCCATGAAGACGGTACGCGACTGGGGGGGG	TOSTICGEATITGGGTCACCAGCAAATICGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG

binding protein

ö

Gaps

ö

120 120 180 180 240 240 300 300 360 360 420 420 480 480 540 540

9

```
GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                           CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGGGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                     CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAGCGGCGATGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACAACTGGCGGGCAAACAGTCGTTGCTGATTGCCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301 ACGCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGGTGTCGATGGTAGAACGAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCCAACGCGCTCATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTAGGGCGTGGACGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGAGGCATCGTTCCCACTGCGATGCTGGCTTGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCGCGCCATACCGAGTCCGGCGTTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGCCATCGTTCCCACTGCGATGCTGGCTACCAACGATCAGATGGCGCTGGCCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                 Length 6806;
                                                                                                                                   maltose
                                                                                                                                                                                                                              2; Indels
                                            Location/Qualifiers
1. 6806
Another in the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control 
                                                                                                                                   ৰ্
                                                                                                                                                                                               DB 6;
             Patent: WO 0206306-A 194 24-JAN-2002;
PHARMACIA & UPJOHN COMPANY (US)
                                                                                                                                                                                          79.9%; Score 2636.8; llarity 99.9%; Pred. No. 0; Conservative 0; Mismatches
                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 2638; Conserv
                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                               source
                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                            g &
                                                                                                                                                                                                                                                                                                                                                                                                             8 % 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           & 4g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
                                                                                                                                         1980
                                                                                                                                                                       2040
                                                                                                                                                                                                                                       2100
                                                                                                                                                                                                                                                                      2100
                                                                                                                                                                                                                                                                                                      2160
                                                                                                                                                                                                                                                                                                                                     2160
                                                                                                                                                                                                                                                                                                                                                                      2220
                                                                                                                                                                                                                                                                                                                                                                                                    2220
                                                                                                                                                                                                                                                                                                                                                                                                                                     2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PAT 18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Yan, R., Tomasselli, A.G., Gurney, M.E., Emmons, T.L., Bienkowski, M.J.
and Heinrikson, R.L.
Substrates and assays for _g(b) -secretase activity
                                                   1861 GAAGGTIATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                               GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCGTGATGTTCAAC
                                                                                                                  1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGATGAGGGTTATGCGTTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                               CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                              TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                     GGTCTGACCTTCCTGGTTGACCTGATTAAAAACACATGAATGCAGACACGGATTAC
                                                                                                                                                                                                                                                                                                                                                             TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                      AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAGCOGTTAATAAAGACAAAACCGCTGGGTGCCGTTAGCGCTTGAAGTCTTACGAAGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2401 GAAGCGGTTAATAAAGACAAACCGCTCGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCAGCGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2581 GCCAGGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6806 bp WO0206306.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 194 from Patent AX378208
AX378208 GI:19574061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            inidentified unidentified unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AX378208
 1801
                                  1861
                                                                                               1921
                                                                                                                                                                                                                             2041
                                                                                                                                                                 1981
                                                                                                                                                                                                                                                                                                                                                             2161
                                                                                                                                                                                                                                                                                                                                                                                              2161
                                                                                                                                                                                                                                                                                                                                                                                                                            2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2281
                                                                                                                                                                                                                                                                                              2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 14
AX378208
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
용
                                                           용
                                                                                                                         요
                              ò
                                                                                       ò
                                                                                                                                                               8 6
                                                                                                                                                                                                                           8 6 8 6
                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                  සි දි
                                                                                                                                                                                                                                                                                                                                                                                                                                                    윰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    名
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

| 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040 1981 CTGCAAGAACCGTACTTCACCTGGCCGTGATTGCTGCTGACGGGGTTATGCGTTCAAG 2040 1981 CTGCAAGAACCGTACTTCACTGACTTCACCTGGCGCGAAAGCG 2100 2011 TATGAAAACGGCAAGTACGACATTAAAGACGTGGCGCTGGATAACGTGGCGCGAAAGCG 2100 2011 TATGAAAACGGCAAGTACGACATTAAAACCGTGGCGCGGAAAGCG 2100 2011 GGTCTGACCTTCCTTGACTTTAAAACCGTGGCGTGGATAACGTGGCCGAAAGCG 2100 2011 GGTCTGACCTTCCTGCTTGACCTTTAAAAACAAACAAACA | RESULT 15 AF031088 AFFERENCE AUTHORS BARDAS, C.F. III, Noren, C.J. and Scott, J.K. BARDAS, C.F. III, Noren, C.J. and Scott, J.K. BARDAS, C.F. III, Noren, C.J. and Scott, J.K. BARDAS, C.F. III, Noren, C.J. and Scott, J.K. BARDAS, C.F. III, Noren, C.J. and Scott, J.K. BARDAS, C.F. III, Noren, C.J. and Scott, J.K. BARDAS, C.F. III, Noren, C.J. and Scott, J.K. BARDAS, C.F. III, Noren, C.J. and Scott, J.K. BAUTHORS AUTHORS ---|--|
| 10 | 1561 ATTAACGGGGATAAAGGCTATAACGGTCGGTGAAGTCGGTAAGAATTCGAGAAAGAT |

240 240 300 300 360 420

480

480 540 540 600

99 600

9 720 720 780 780 840 840 900 900 960

360

120 120

```
CTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    redrigardredradaacdaacddcdredaadccreraaadcddcdrecacaarc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1020
                                                                                                                                                    CCGACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                  cceachceartecraraaccrrrceceerarecaraecerceceera
                                                                                                                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGAGTATGCCG
                                                                                                                                                                                                                                                                           cecesaaaaarreaaaececearesceaeceaacreaarracarreceaaceecac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTGGTGTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGGTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481 TIGCTGIGGGAGCTGCCTGCACTAAIGTICCGGGGTTAITTTCTTGAIGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGATATCTCCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGAGGGCATCGTTCCCACTGCGGATGCTGCCAACGATCAGATGGCGCTGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCTGCTGGGGGCAAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGGGGTGA
                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                  90;
                                                                                                                                                                                                                                                                                                                                GIGICICITALCAGACCGITICCCGCGTGGTGAACCAGGCCAGCCACCTTT
                                                                      Length
                                                                                                               Indels
                                                                                                               2;
                                                                    DB 12;
                                                                 Score 2631; DE
Pred. No. 0;
0; Mismatches
                                                       Query Match 79.7%;
Best Local Similarity 97.7%;
Matches 2704; Conservative
                                                                                                                                                      Н
                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
              ORIGIN
                                                                                                                                                                                                셤
                                                                                                                                                    ò
                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>გ</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /transl cables | Cables |
//transl cables |
//transl cables |
//product="maltose binding protein-lacZ alpha peptide fusion protein precursor" |
//product="maltose binding protein-lacZ alpha peptide fusion protein id="maltose" |
//do_xref="do:2623823" |
//do_xref="do:2623823" |
//do_xref="do:2623823" |
//do_xref="do:2623823" |
//do_xref="do:2623823" |
//do:2623823823 |
//do:2623823823 |
//do:2623823823 |
//do:2623823 |
//do:2623823 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
//do:262382 |
                                                                                                                                                                                                                                                                                                                                                                /translation="MKEVTLYDVAEVAGVSYQTVSRVVNQASHVSAKTREKVEAAMAE
LNYIPNRVAQQLAGKQSLLIGVATSSLALHAPSQIVAAIKSRADQLGASVVVSHVERS
EUNYIPNRVAQQLAGKQSLLIGVATSSLALHAPSQIVAAIKSRADQLGASVVVSHVERS
EVEACKAAAVHNILAQRVSGLIINYPLDDQDAIAVEAACTNNVBALFLDVSDQTPINSII
RSHEDGTRLGVEHLVALGHQQIALLAGPLSSVSARLRILAGHKYLTRNOQPPTAEREG
DWSAMSGFQQTWQMLUBGIVPTAMLVANDQMALGAMRAITESGLRVGADISVVGYDDT
EDSSCYIPPLTIKQDFRLLGGTSVVBLLGLSGQQAVKGNQLLPVSLVKRKTTLAPNT
QTASPRALADSLMQLARQVSRLESGQ"
                          'note="derived from commercially available vector pMal-p2 (New England Biolabs)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'translation="MSIQHFRVALIPFFAAFCLPVFAHPETLVKVKDAEDQLGARVGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IELDLNSGKILESFRPEERSPWKSTFKVLLCGAVLSRYDAGGEGLERIHYSGYDLUS
DYRPTEKHLTDGMTYRELCSAAITWSDNTAANLLLTTIGGPKELTAFLHNWGDHYTL
DYRPPELNEAIPUDERDTTMPYAMATTLRKLLTGELLTLASRQQLIDWMEADKVAGPL
LRGALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIA
EIGASLIKHW"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1528. 1581
/Gene="malls-lacza fusion"
/Gene="malls-lacza fusion"
1582. 2973 secretion signal sequence"
1582. 12973 accretion signal sequence"
/poene="malls lacza fusion"
/produce="mallose binding protein-lacz alpha peptide fusion protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="E. coli gene fusion"
1528. 2976
/gene="mall-lacZa fusion"
/note="MBP-lacZa; MBP modified to include phage secretion signal sequence"
/codon_start=1
/transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note="R-plasmid ampicillin resistance gene"
                                                                                                                                                                                                                               /note="transcriptional repressor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4381. .4893
/standard_name="M13 origin (+ -)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       product="RTEM-1 beta-lactamase"
(protein_id="AAB86560.1"
(db_xref="G1:2623824"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1406. 1433
/note="Ptac promoter"
1528. 2976
/gene="malE-lacza fusion"
                                                                                                                                                                                                                                                                                            /product="lac repressor"
/protein id="AAB86558.1"
/db_xref="G1:2623822"
db_xref="taxon:69327"
                                                                                            /gene="laci"
/note="E. coli gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="penicillinase"
/codon_start=1
/transl_table=11
                                                                                                                                                                                                                                                                                table=11
                                                                                                                                                                                                                                                        /codon_start=1
/transl_table=:
                                                                                                                                                    /gene="lacI"
81. 1152
                                                                                                                                                                                   81. .1163
/gene="lacI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          478. .4338
gene="bla"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3478. .4338
/gene="bla"
                                                                                                                                          .46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rep_origin
                                                                                                                                promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOS
```

	2221 2221 2281 2281	OY 2281 ANGGETCACCAT Db 2341 AAGGGTCAACCAT OY 2341 CCGAACAAAGAGC Db 2401 CCGAACAAAGAGC OY 2401 GAAGCGGTTAATA	2461 2461 2521 2521	2581 2581 2641		Search completed: August 1 Job time: 9284 secs		
1021 AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAACACCCCTGGCGCCCAATA 1080 1021 AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCCAATA 1080 1021 AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCCAATA 1080 1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCACTGGCACGACAGGTTT 1140 1081 CGCAAACCGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCACTGGCACGACAGGTTT 1140 1141 CCCGAAACCGCCTCTCCCCGCGCGTTGGCCCATTAATGCACTGGCACACGACATTGTTAATGCACTCACT			1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 [1381 CTGGCAAATATTCTGAAATGACTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 1381 CTGGCAAATATTCTGAAATGACTGTTGACAATTAATCATCGGCTCGTTAATGTGTGGA 1440 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 [1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCGGTCTAGGTGTTTTCACGA 1500	1501 GCACTTCACCAACAAGGACCATAG	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTCAAGTCGCTAAGAAATTCGAGAAAGT 1620	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC 1740	1801 CCGTTACCTGGGATGCCGTACGTACAGCGCAAGCTGATTGCTTACCCGATCGCTGT 1860 1861 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1920 1861 GAAGCGTTATCGGTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 1921 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1980 1921 GAGGCTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1980 1921 GAGATCCCGGCGCTGGATAAAAAAAACTGAAAGCGAAACCGGCGCTGATGTTCAAC 1980 1981 GAGATCCCGGCGCTGGATAAAAAAACTGAAAGCGAAAAAACTAAAAAACTAAAAAACTAAAAAAAA	2041 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAGG 2100

1, 2005, 17:22:13

ATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGGTGATCAACGCC ARCTICCTGGITGACCTGAITAAAAACAAACACATGAAIGCAGACACCGAITAC AAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG GCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG

THIS PAGE BLANK (USPTO)	

Ad190419 Clostridi Adf0653 Vector pJ Ad173509 Plasmid p Adh73509 Plasmid p Adh73600 Plasmid p Adh73600 Plasmid p Adh73600 Plasmid p Adh73600 E. coli t Aav32977 Tn7 donor Aav32977 Tn7 donor Ad472229 DNA seque Ad172229 DNA seque Ad172229 DNA seque Ad172229 DNA seque Ad18668 Plasmid p Ad718668 Plasmid p Ad73089 MBP and z Ad63522 MBP-human Aac90491 Vector pl Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG Ad03532 Vector pG

Sequence:

Run on:

Searched:

Database

Result Š.

```
08:46:03 2005
m
Aug
Wed
```

```
Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; Ap3; APETALA3; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               fransl_except= (pos:3124. .3126, aa:Ser)
fransl_except= (pos:3127. .3129, aa:Ser)
fransl_except= (pos:3136. .3138, aa:Val)
fransl_CDS does not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag= d
/bound moiety= "F2-b primer"
2867. 2940
/*tag=
/bound moiety= "F2-f primer"
2916. 2973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Partial
7740. 2790
/*tag b
Dbound moiety= "F1-f2 primer"
2770. 2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 *tag= c
/bound_moiety= "F1-f1 primer"
2824. .2889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "F3-b1 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Partial sequence of pMal-Ap3 and ZFPAp3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               *tag= a
product= "ZFPAp3 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag= g
/bound_moiety= "F3-b2
2992. .3042
                                                                                                                                                                                                                                                                          ADL18668
ABQ73089
ADF83622
AAD3352
AD03352
AD033532
AD033532
AD033531
AACS5459
                                                   ADH73599
ADH73598
ADH73600
ADH73601
ABZ23939
ABQ73200
AAD45059
ADG46817
ADL72228
ADL72228
ACF06051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers 2719. .3270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag= f
/bound_moiety= "
2953. .3021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAD11592 standard; DNA; 3300
                                                                                                                                                                 (first entry)
 Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          primer_bind
1609.4
14672.4
1462.4
1462.4
1462.4
1462.4
148.2
14117.6
14117.6
1362
                                                                                                                                                                                                                                      1362
1238.4
1238.4
1237.2
1237.2
1237.2
                                                                                                                                                                                                                                                                                                                                                     1204
1204
1204
1204
1204
1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAD11592;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAD11592
   Aad11592 Partial 8
Aad11589 Partial 8
Aad11589 Partial 8
Aad11589 Partial 8
Aad1550 Partial 8
Aad15561 Nuclectid
Abc23668 Nuclectid
Adc23619 DNA encod
Adc23519 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
Adc2359 DNA encod
                                                                                                                         July 31, 2005, 14:24:04; Search time 1094.6 Seconds (without alignments) 17846.836 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                        1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Description
                   GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                4390206 seqs, 2959870667 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAD11592
AAD11588
AAD11589
AAD11589
AAD11580
AAD23608
AD023603
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023608
AD023598
AD023598
AD023598
                                                                                            nucleic search, using sw model
                                                                                                                                                                                                                                                                          IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                geneseqn2001bs: *
geneseqn2002bs: *
geneseqn2002bs: *
geneseqn2003bs: *
geneseqn2003bs: *
geneseqn2003ds: *
geneseqn2003ds: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         geneseqn1980s:*
geneseqn1990s:*
geneseqn2000s:*
geneseqn2001as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                geneseqn2004bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N_Geneseq_16Dec04:*
1: geneseqn1980s:*
2: geneseqn1990s:*
                                                                                                                                                                                                                                                                                                                                                                                                         seq length: 0
seq length: 200000000
                                                                                                                                                                                                   US-09-765-555B-18
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          33300
33300
33300
33300
33300
43320
73322
73370
73370
73470
74473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        980.0
97.8
97.8
97.8
82.0
82.0
81.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
811.5
                                                                                                                                                                                                   Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22225
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272126
272
                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
                                                                                            OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB
Maximum DB
```

~

```
primer_bind
       primer_bind
           primer_bind
               primer_bind
                   primer_bind
                            26-JUL-2001
                                                                                               61
                                                                                                  121
                                                                                                    121
                                                                                 Query Match
음
                                                                                              g
                                                                                       ઠે
                                                                                           ठ
                                                                                                 ઠે
```

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP proteins are useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           °
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the target gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GIGICICITAICAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-Ap3 (APETALA3) and ZFPAp3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 3300; DB 4; Length 3300; 100.0%; Pred. No. 0; tive 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3300 BP; 853 A; 872 C; 876 G; 699 T; 0 U; 0 Other;
*tag= h
/bound_moiety= "F4-f2 primer"
3022. _3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                     "F6-b2 primer"
                                                                                                               bound moiety= "F4-f1 primer'
                                                                                                                                                                                                                                                                                                                                                                           primer"
                                                                                                                                                                                                                                                                                   "F5-f primer"
                                                                                                                                                                                                 moiety= "F5-b primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 4; Page 148-149; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dalmia
                                                                                                                                                                                                                                                                                                                                                                      "F6-b1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                                                                                                                                                                                                                                                                                                  /*tag= 1
/bound moiety= "1
3205. 3273
/*tag= m
/bound_moiety= "
                                                                                                                                                              /*tag= j
/bound_moiety= "
3119. 3192
/*tag= "
/bound_moiety= "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-JAN-2001; 2001WO-US001817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 100.
Matches 3300; Conservative
                                                                                        *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Barbas CF, Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-465325/50.
P-PSDB; AAE06005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200152620-A2
```

1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260 360 240 420 480 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 Acececcercecaaarrercececcarraaarcreececcaarcaacreecraece 420 480 540 540 900 9 99 999 720 720 780 780 840 840 900 960 960 900 CGCGGGAAAAAGTGGAGGGGGGGAGCTGAATTACATTCCCAACCGCGTGGCAC ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TIGCIGIGGAAGCIGCCIGCACIAAIGIICCGGCGIIAITITCIIGAIGICTCTGACCAGA TIGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGGCGTTATTTCTTGATGTCTGACCAGA CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 1081 CGCAAACCGCCTCTCCCCCGCGCGTTGGCCCGATTCATTAATGCAGCTGGCACGACGACAGGTTT CCCGACTGGAAAGCGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTAG TGGTGGTGTCGATGGTAGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA ATGAGGGCATCGTTCCCACTGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 841 rececentracceaercesecreceserreseseararceserraces GCACAATICTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAATTAATGTGAGTTAGCTCACTTAG 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 961 GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGT 241 841 181 241 301 301 361 361 421 481 541 541 601 601 661 721 781 421 481 661 721 781 1081 1141 1201 g ò 엄 ò 원 ઠે 셤 ò ద g g à 8 6 ፟ ò 요 ò g 8 8 8 6 ð g ò 셤 à g 셤 à 8 g ò

	RESULT 2 AAD11591 ID AAD11591 standard; DNA; 3300 BP. XX AC AAD11591; XX DT 24-SEP-2001 (first entry) XX DF 24-SEP-2001 (first entry) XX DF 24-SEP-2001 (first entry)
1261 TCHGGCACCHTCGGAMGTGTGTANGCTGTACAGTCGTAATCACTGCATAATCG 120 121	2221 GCATGGTCCAACATCGACACCAGCAAATTATGGTGTAACGGTACTGCCGACCTTC 2280

```
the
          Zinc finger protein; ZFP; gene expression; metabolic pathway regulator;
modulation; plant technology; agriculture; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of
                                                                                product= "ZPPm4 protein"
/transl_except= (pos:3046. .3048, aa:Ser)
/note= "CDS does not include start and stop codon"
                                                                                                                                                                         2824. .2889 / tage d / tage d / tage d / bound_moiety= "F2-b primer" 2867. .2940 / tage e / tage e
                                                                                                                                                                                                                                                                    *tag= g
bound_moiety= "F3-b2 primer"
1992. .3042
                                                                                                                                                                                                                                                                                                        "F4-f2 primer"
                                                                                                                                        bound_moiety= "F1-f2 primer" 770. .2850
                                                                                                                                                                                                                                            *tag= f
bound_moiety= "F3-b1 primer"
                                                                                                                                                                                                                                                                                                                                   "F4-f1 primer"
                                                                                                                                                                   "F1-f1 primer'
                                                                                                                                                                                                                                                                                                                                                                                                                                              'bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                    'bound moiety= "F6-b1 primer"
1205. 3273
                                                                                                                                                                                                                         bound_moiety= "F2-f primer"
916. 72973
                                                                                                                                                                                                                                                                                                                                                                                          "F5-f primer"
                                                                                                                                                                                                                                                                                                                                                                 primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 4; Page 145-147; 156pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dalmia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                        location/Qualifiers
                                                                                                                                                                                                                                                                                               /*tag= h
/bound moiety= "
3022. .3102
                                                                                                                                                          *tag= c
bound_moiety=
                                                                                                                                                                                                                                                                                                                                  bound_moiety=
076. .3141
                                                                                                                                                                                                                                                                                                                                                                                         bound_moiety=
                                                                                                                                                                                                                                                                                                                                                                molety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Guan X,
                                                                                                                     2740. .2790
/*tag= b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19-JAN-2001; 2001WO-US001817.
                                                                 2719. .3270
/*tag= a
                                                                                                                                                                                                                                                              953. 3021
                                                                                                              partial
                                                                                                                                                                                                                                                                                                                                                                                  *tag=
                                                                                                                                                                                                                                                                                                                           *tag=
                                                                                                                                                                                                                                                                                                                                                      *tag=
bound_
                                                                                                                                                                                                                                                                                                                                                                                                             *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-465325/50.
P-PSDB; AAE06004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200152620-A2
                                     Unidentified
                                                                                                                      primer bind
                                                                                                                                                primer_bind
                                                                                                                                                                          primer_bind
                                                                                                                                                                                                      primer_bind
                                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                                                                            primer_bind
                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                                                                                                                      primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  arget gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Barbas CF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-JUL-2001
                                                       Key
```

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) Which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target cells within a target gene and allowing the ZFP binding to the target cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression of the target gene in the plant for modulating or regulating agene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m4 and ZFPM4 DNA
                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                       CCGACCCATCGATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACTGGCGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGCTGTGGAAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGTCTGCGTCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cecerciecerciescrescrescaraaararcreacrescaarcaarreagecearas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGAACGGAACGCCACTGCCATGTCCCGGTTTTCAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                   Score 3232.8; DB 4; Length 3300;
Pred. No. 0;
0; Mismatches 42; Indels 0;
                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                  Sequence 3300 BP; 849 A; 865 C; 880 G; 706 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                               Query Match 98.0%;
Best Local Similarity 98.7%;
Matches 3258; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
g
                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
```

Page 5

1912
6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8
11 TYTOLOGOCATYCOTTCCCACTCCATCCTATCCACCATCCACTCCCACCACCAC

ø

```
3120
                                                                                                        3180
 2941 AAGICITICAGIGATIGICGIGAICTIGCGAGGCACCAACGIACTCACACCGGGGAGAAG 3000
                                                                                                                      CGCAGCGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180
                                                                                                                                           CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACGTACTCAC 3240
                                                                                                                                                              3181 CCAGAATGTGGCAAGTCTTTCTCAAGTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC 3240
                                                                                                                                                                                   ACCGGTAAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300
                      CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACAC 3060
                                                                                                                                                                                              3241 ACCGGIAAAAAAATGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                     Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
                                                                       CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCCAGAGTGCGGCAAATCTTTAGC
                                                                                                    CAGCGCCCCACCTGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                         CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                           aa:Pro)
aa:Gly)
aa:Arg)
aa:His)
aa:Glu)
aa:Glu)
aa:Ser)
aa:Ser)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aa:Asp)
aa:Asn)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aa:Val)
aa:Arg)
aa:Gln)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aa:Ala)
aa:Gly)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . .3222, aa:Ala)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aa:His)
                                                                                                                                                                                                                                                                                                                                                                                                                                          2790,
2814,
28874,
2886,
2955,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag= c
/bound_moiety= "F1-f1 primer"
2824. .2889
/*tag= d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag= b
/bound_moiety= "F1-f2 primer"
2770. .2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                     (pos:2791.
(pos:2872.
(pos:2875.
(pos:2878.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (pos:3124.)
                                                                                                                                                                                                                                                                                                                   Partial sequence of pMal-ml and ZFPml DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (pos:3130.
(pos:3136.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pos:3139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pos:2884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pos:2959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pos:3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pos:3205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      pos:2953
                                                                                                                                                                                                                                                                                                                                                                                         location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                            /transl_except= (/transl_except= (/transl_except= (/transl_except= (/transl_except= /transl_except= )
                                                                                                                                                                                                                                                                                                                                                                                                                               /transl_except= (/transl_except= (/transl_except= (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /transl_except= (
/transl_except= (
/transl_except= (
/transl_except= (
/transl_except= (
/transl_except= (
                                                                                                                                                                                                                                                                                                                                                                                                                       product= "ZFPm1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'transl_except= 'note= "CDS does
                                                                                                                                                                                                                                                         BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               transl_except=
                                                                                                                                                                                                                                                       AAD11588 standard; DNA; 3300
                                                                                                                                                                                                                                                                                                                                                                                                    2719. .3270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /partial
2740. .2790
                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                     Unidentified
                                                                                                                                                                                                                                                                                              24-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                primer_bind
                                        3001
                                                            3061
                                                                                 3061
                                                                                                    3121
                                                                                                                       3121
                                                                                                                                           3181
                                                                                                                                                                                    3241
                     3001
                                                                                                                                                                                                                                                                           AAD11588;
                                                                                                                                                                                                                                                                                                                                                                                        Key
                                                                                                                                                                                                                                     RESULT 3
                                                                                                                                                                                                                                               AAD11588
유
                   ò
                                    유
                                                       ò
                                                                           g
                                                                                                  ò
                                                                                                                  셤
                                                                                                                                     ઠે
                                                                                                                                                           a
                                                                                                                                                                                                                                                        ⋧
                                                                                                                                                                                               გ
```

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (EFP) Which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target gene within a target gene and allowing the ZFP binding to the target cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m1 and ZFPm1 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New zinc finger proteins, useful for modulating or regulating gene
expression and metabolic pathways in plants, e.g. for treating in the
plant cells a disorder that is associated with abnormal expression of the
target gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other;
                                                                                                                                                                 'bound moiety= "F4-f2 primer"
                                                                                                                                                                                                                                                                                                                                /bound_moiety= "F6-b1 primer" 3205. .3273
                                                                                                                                                                                                                                                                                                                                                           '*tag= m
'bound_moiety= "F6-b2 primer"
                                                                                   primer"
                                                                                                                            primer"
                                                                                                                                                                                                        bound moiety= "F4-f1 primer"
  bound_moiety= "F2-b primer"
                                                                                                                                                                                                                                                 bound_moiety= "F5-b primer"
                                                                                                                                                                                                                                                                                         bound_moiety= "F5-f primer"
168. 3225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 4; Page 138-139; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dalmia
                                                                   /*tag= f
/bound_moiety= "F3-b1
2953. .3021
                                                                                                                          "F3-b2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                           /*tag= e
/bound_moiety= "
2916. .2973
                                                                                                                         bound_moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-JAN-2001; 2001WO-US001817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                               .3192
                                                                                                             *tag=
                                                                                                                                                      *tag=
                                                                                                                                                                                              *tag=
                                                                                                                                                                                                                                     *tag≃
                                                                                                                                                                                                                                                                             *tag=
                                                                                                                                                                                                                                                                                                                    *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Barbas CF, Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-465325/50.
P-PSDB; AAE06000.
                                                                                                                                                                                                                                                                                                                                                                                                    WO200152620-A2
           primer_bind
                                                     primer bind
                                                                                             primer_bind
                                                                                                                                      primer_bind
                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                              primer_bind
                                                                                                                                                                                                                                                                                                      primer_bind
                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                              26-JUL-2001
```

ö

Gaps

ö

46; Indels

97.8%; Score 3226.4; 98.6%; Pred. No. 0; iive 0; Mismatches

Best Local Similarity 98.6 Matches 3254; Conservative

Query Match

DB 4; Length 3300;

Page 7

2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220

6 8 6 8 6

8 6

8 6

요

ઠે

ò

ଶ ጵ

용

8 6 8 6 8 6

8 6 6

8 8

8 &

```
Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
                                                                                                                                                                                                                                                                                                                                                                                          product= "ZFPm2 protein"
note= "CDS does not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           *tag= c
bound moiety= "F1-f1 primer"
824. 72889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      *tag= f
bound_moiety= "F3-b1 primer"
953. .3021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  *tag= g
bound_moiety= "F3-b2 primer"
bound_moiety= "F4-f2 primer"
*tag= h
bound_moiety= "F4-f2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 *tag= i
bound_moiety= "F4-f1 primer"
076. 3141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            *tag= m
'bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                // Dartial
740. 2790
*tag= b
Dound moiety= "F1-f2 primer"
770. 2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bound moiety= "F6-b1 primer"
205. 3273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              *tag= d
'bound_moiety= "F2-b primer"
:867. _2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          *tag= e
bound moiety= "F2-f primer"
916. _2973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           *tag= j
bound moiety= "F5-b primer"
119. 3192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "F5-f primer"
                                                                                                                                                                           Partial sequence of pMal-m2 and ZFPm2 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dalmia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SCRI ) SCRIPPS RES INST.
SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                                                                                                                                                                                                                                                                                              Cocation/Qualifiers 2719. .3270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= k
/bound_moiety= "
3168. .3225
                                                AAD11589 standard; DNA; 3300 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Barbas CF, Stege JT, Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .9-JAN-2001; 2001WO-US001817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             022. 73102
                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                *tag≃
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200152620-A2
                                                                                                                                   24-SEP-2001
                                                                                                                                                                                                                                                                                    Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86-JUL-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      primer_bind
                                                                                         AAD11589;
      RESULT 4
                                              TO A CONTROL OF THE STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD STANDARD S
                                                                                                                              2340
                                                                                                                                                                           2400
      2280
                                              2280
                                                                                                                                                                                                                                                                                                                                                                                                                                    2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2820
                                                                                                                                                                                               GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                           TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACTGGTGCGCCACCAGCGGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2821 ACGGGIGAAAAACCGIATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGGAAC 2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGTCTTTCAGCCAGTCCAGCAACCTGGTGCGCCACCAACGTACTCACACCGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2941 AAGTCTTTCTCTCGGTCTGACAATCTCGGCCACCAACGTACTCACACCGGGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCGTACCCACACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                      2461 TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2581 GCCAGCGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGATCCTCTCTCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CIGGIGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCGTACCCACACGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                  2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                    CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2641 AACAACAACAACAATAACAATAACAACACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2701 GGATCCTCTCTCTGTGGCCCAGGCGGCCCTCGAGCCCCGGGGAGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCGCGCCCACCTGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2941
                                                                                                                                                                                                               2341
                                                                                                                                                                                                                                                         2401
                                                                                                                                                                                                                                                                                                   2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3181
2221
                                                                                                                                                                                                                                                                                                                                             2461
                                                                                                                                                                                                                                                                                                                                                                                                                                2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3121
```

the

regulating

ö

The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ETP) which is capable of specifically binding to a target uncleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with partial sequence of pMal-m2 and ZFPm2 DNA expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of finger proteins, useful for modulating Example 4; Page 140-142; 156pp; English P-PSDB; AAE06002 zinc

Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other;

8 6

8 6

8 %

名

ે

ò

g ઠે g ठे g ઠે 음 장

120 120 180 180 240 240 300 300 360 360 420 420 480 480 540 540 600 600 9 9 9 GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTTGC TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA GTCAATTCAGGGTGAGTGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG GTGTCTCTTATCAGACCGTTTCCCGCGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA CGCGGGAAAAAGTGGAGGGGGGGTGGGGGGGGGGGGGATTACATTCCCAACCGCGTGGCAC ö DB 4; Length 3300; Indels 46; ; Score 3226.4; I ; Pred. No. 0; 0; Mismatches 97.8%; Local Similarity 98.6 tes 3254; Conservative н 121 181 241 541 301 421 481 601 Query Match 61 61 121 181 241 301 361 361 421 481 541

1681

6 B 셤 ઠે

1680 1140 1200 1200 1260 1320 1320 1380 1380 1440 1560 1620 1020 1020 1080 1080 1260 1500 1500 1620 1680 840 960 720 780 780 840 900 GCACTTCACCAACAAGGACCATAGATTATGAAAAACTGAAGAAGGTAAACTGGTAAATCTGG GCCTGCTGGGGCAAACCAGGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA TCAGGCAGCCATCGGAAGCTGTGGTAGGCTGTGCAGGTCGTAAATCACTGCATAATTCG TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA GCGCCAACTGGCGCTTGACATTATCTTCTGGGCACGACCGCTTTGGTGGCTAC GCGCCAACTGGCCGTTGGCCCTGACATTATCTTCTGGGCACACGCGTTTGGTGGCTAC CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAAATTCAGCCGATAG CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA AGGGCAATCAGCTGTTGCCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA CGCAAACCGCCTCTCCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTAATGCAGCTGGCACGACGGCTTT GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT crescaaatatrersaaatsascrerreasaarraatsaarsassaasaa ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA ATTAACGCCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG cegaaceegaaeeceacreeaereccarerceerrrrcaacaaaccarecaarecrea ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA Argagggarcerrecacregargcregrreccaacgarcagarggcgcreaa recededearraceagreceaerrececerreceararerecearace ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1441 1561 1561 781 841 841 106 1021 1081 1141 1201 1261 1261 1321 1321 1381 1441 1501 1621 1681 721 961 1021 1081 1141 1201 1381 1501 661 561 721 781 901 196 g 8 8 g 원 g 셤 g ద g g g ò 셤 셤 ò 8 a ઠે 셤 ò 셤 ò 셤 ठ ò ઠે **상** 원 8 ò ò ò ð ò

0y 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCACCAC 2880 2821 ACGGGTGAAAAACCGTATAAATGCCCAGGGTGCGGCAAATCTTTTAGCCAGTCCAGCAGC 2880 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAAATCTTTTAGCCAGTCCAGCAGC 2880 2881 CTGGTGCGCATCAACTGGCGAGAACCATACAATGTCCAGAATGTGGC 2940 2881 CTGGTGCGCATCAACTGGTGGCGACAACTACAAATGTCCAGAATGTGGC 2940 2881 CTGGTGCGCATCAACTCAGCACACCAACTACAAATGTCCAGAATGTGGC 2940 2882 AAGTCTTTCACTCAGCACACTGGTGGCCCACCAACGTACAAATGTCCAGAATGTGGC 2940 2883 AAGTCTTTCACTCGGTCAACTCTCAGCACCAACTACAAATGTCCAGAAGAGAAAAAAAA	RESULT 5 AAD11590 ID AAD11590 XX AC AAD11590; XX XX AC AAD11590; XX XX 24-SEP-2001 (first entry) XX XX XX X 24-SEP-2001 (first entry) XX XX XX X 2inc finger protein; ZPP; gene expression; metabolic pathway regulator; XX XX XX XX XX XX XX XX XX XX XX XX XX
	2221 GCATGGTCCAACATCGACCACCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2281 AAGGGTCAACATCGACACCAACAGTGAATTATGGTGTAACGGTAATTAACGCCCCACCTTC 2280 2281 AAGGGTCAACATCCAACACGTTCGTGTGTGTGTAGTGTA

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                  240
                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                  240
                                                                                                                     300
                                                                                                                                                                                        360
                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCTGCTGGGGGCAAACCAGCGTGGACGGCTTGCTGCAACTCTCTCAGGGCCCAGGCGGTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTGCTGGGGGCAAACCAGGGGGGCCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                  CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                         ACGCCCCTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                   TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         166TC6CATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGGCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGAGGCCATCGTTCCCACTGCGATGCTGCTTGCCAACGATCAGATGGCCGCTGGCCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cecaaaccecercrececececerresecearrearrarecaecreseaceaegerr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                    AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                      ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                          361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                               Treregededaegededegegergarearraacraregegergeargaegargeea
                                                                                                                                                                                                                                                                                                                                                                 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                     301
                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                  181
                                                                                    241
                                                                                                                     241
                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           දු දු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               දු දු
                                                                               ò
                                                                                                              g
                                                                                                                                                     ò
                                                                                                                                                                                셤
                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GIGILINITATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating disorder in the plant cells, where the disorder is associated with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             abnormal expression of the target gene. The present DNA sequence is the
Partial sequence of pMal-m3 and ZFPm3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 4; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ,
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3300 BP; 845 A; 878 C; 877 G; 700 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    52; Indels
                                                                                                                                                                                                                                                                           "F6-b2 primer"
                "F4-f2 primer"
                                                                    primer"
                                                                                                                                                                                                                        "F6-bl primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 3216.8; I
Pred. No. 0;
0; Mismatches
                                                                                                                     "F5-b primer"
                                                                                                                                                                     "F5-f primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dalmia B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 4; Page 143-145; 156pp; English
                                                                  "F4-£1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ) SCRIPPS RES INST.
) SYNGENTA AGRIC DISCOVERY INC.
/*tag= h
/bound_moiety= "
3022. 3102
                                                                                 3076. 3141
/*tag= j
/bound_moiety= "
3119. 3192
                                                                                                                                                                                                        /*tag= 1
/bound_moiety= "
3205. .3273
                                                                                                                                                                     bound_moiety=
                                                                  moiety=
                                                                                                                                                                                                                                                                            bound moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                  21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                19-JAN-2001; 2001WO-US001817
                                                                                                                                                       *tag= k
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 3248; Conservative
                                                  /*tag=
/bound_n
                                                                                                                                                                                                                                                            *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-465325/50.
P-PSDB; AAE06003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (SCRI ) SCRIPPS
(SYGN ) SYNGENTA
                                                                                                                                                                                                                                                                                                             WO200152620-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              target gene
                                                                                                                                                                                                                                      primer_bind
                              primer_bind
                                                                                 primer_bind
                                                                                                                                   primer_bind
                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Barbas CF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
```

셤

6 6 6

셤

	Db 2881 CTGGTGGGCATCAACGCACTCATACTGGGAAAGCCATACAAATGTCCAGAATGTGGG 2940 2941 AAGTCTTTCAGCCAGCACCTCATACTGGGCGAAATGTCCACCGGGAAAGGC 3000 2941 AAGTCTTTCAGCCAGCACCTGGTGGGCCACCAACGTACTCACCGGGAAAAG 3000 Qy 3001 CCCTATGCTTGTCGGAATGTGGTAAGTCCTTCAGCCCAGCGTGCTCACCGGGAAAAG 3000 Qy 3001 CCCTATGCTTGTCGGAATGTGGTAAGTCCTTCAGCCCAGCGGCCACCTGGTGGCCCCC 3060 Qy 3061 CAGCGTACCCACGGGTGAAAAACCGTATAAATGCCCAGAGCGCCACTGGTGCGCCAC 3060 Qy 3061 CAGCGTACCCACGGGTGAAAAACCGTATAAATGCCAGAGCGCAAATCTTTAGT 3120 Db 3061 CAGCGTACCCACAGGGTGAAAAAACCGTATAAATGCCAGAGGCGCAAATCTTTTAGT 3120 Qy 3121 CAGCGGCCCCACTGGAACGCCATCAACGCACTCATACTGGCGGCAAATCTTTTAGT 3180 Db 3121 CAGCGGCCCCACTGGAACGCCATCAACGCACTCATACTGGCGGCAAATGTTTTAGT 3180 Qy 3181 CCAGAATGTGGCTAACGCATCAACGCACTCATACTGGCGAAAACTTTTAGT 3180 Qy 3181 CCAGAATGTGGCTAACGCATCAACGCAACTTCGTCCGACATCAACTCACCAACGTACTCACCAACTCACCAACTCACCAACCTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACTCACCAACCCAACCCAACCAACCAACCCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCCAACCAACCCAACCCAACCAACCCAACCAACCCAACCAACCCAACCAACCCAACCAACCCC	RESULT 6 AAH25681 ID AAH25681 standard; DNA; 8101 BP. XX AC AAH25681; XX XX XX XX XX XX XX XX XX XX DF 05-SEP-2001 (first entry) XX XX XX
1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGAATCACTGCATAATTCG 1320 1761 1761 1761 1761 1761 1761 1761 1761 1761 1762 17	CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTTT 186 GAAGCGTTATCGCTGATTTATAACAAGGATCTGCTGCTATTGCTTACCCGATCGCTGTT 186 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 192 GAGGGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 192 GAGATCCCGGCCCTGGATTAAAAAACTGAAAGGTAAAGGCGCGCTGATGTTCAAC 198 GAGATCCCGGCCCTGGATAAAAAACTGAAAGCGAAAGGCGCGCTGATGTTCAAC 198 GAGATCCCGGCCTGGATTAAAAAACTGAAAGGTAAAGGCGCGCTATGCTTCAAC 198 CTGCAAGAACCGTACTTCACCTGGCTGATTGCTGCTGCGGGGGTTATGCGTTCAAC 198 CTGCAAGAACCGTACTTCACCTGGTTGATGCTGCTGCGGGGGTTATGCGTTCAAC 198 CTGCAAGAACCGTACTTCACCTGGTTGATGCTGCTGCTGGCGGGAAGCG 210 CTGCAAGAACCGTACTTCACCTGGTTGATGCTGCTGGAGGGCTGTTAACGTTCAAC 198 CTGCAAGAACCGTACTTCACCTGGTTGATGCTGCTGGAGGACCCGAAAGCG 210 GGTCTGAAAACGGCCAATTAAAGACGTGGGGTGGATAACGCTGGCGGAAAGCG 210 GGTCTGAAAACGGCCAATTAAAAAACAAAACAACAAAAAGCTGGCGGAAAGCG 210 GGTCTGAACCTTCCTGGTTGAACTAAAAAACAAAAACACATGAATGCAGACCCGATTAC 216 GGTCTGACCTTCCTGGTTGAACTAAAAAACAAAAACACATGAATGCAGACCCGATTAC 216 TCCATCGCAGAAAGCTGCCTTTAATAAAAGCGAAAACACATCAAACGCCCGTTGG 222 TCCATCGCAGAAAGCCTTTAATAAAAGCGAAAACACATCAAACGCCCGTGG 222 TCCATCGCAGAAAGCCTTTAATAAAAGCGAAAACACATCAAACGCCCGTGG 222 TCCATCGCAGAAAGCCTTTAATAAAAGCGAAAACACATCAAACGCCCGTGG 222 TCCATCGCAGAAAGCCCTTTAATAAAAGCGAAAACACATCAAACGCCCGTGG 222 TCCATCGCAGAAACCCTTTAATAAAAAGCGAAAACACATCAACGGCCCGTGG 222 TCCATCGCAGAAACCCTTTAATAAAAAGCGAAAACGCAATCAACGGCCCGTGGG 222 TCCATCGCAGAAAACTTAATAAAAAGCGAAAACACATCAACACGACCCGTTGGCGCGTGGGAAACGCGCTGGGGGGGG	2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACATCGACAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACACCTTCGTTGGCGTGCTGAACGGTATTAACGCCGCCCAGT 2340 2281 AAGGGTCAACCATCGTTGGTGGTGGTGAACGGTATTAACGCCGCCAGT 2340 2281 AAGGGTCAACCATCGTTGGCTGTGGTGTGTTGATGAGTATTAACGCCGCCAGT 2340 2281 CCGAACAAACGGTTCGTTGGCGTGCTGAACGCTGAGTATTAACGCCGCCAGT 2340

us-09-765-555b-18.rng

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1500
                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
 480
                                 540
                                                             540
                                                                                            9
                                                                                                                           9
                                                                                                                                                           9
                                                                                                                                                                                          99
                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTTGGGTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCGGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACTICACCAACAAGGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                               TIGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGGGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                         TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                     ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                       ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                            CACCCATCAACAGTATTTTTTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                           TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1501
                                                             481
                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
 121
                                 481
                                                                                              541
                                                                                                                           541
                                                                                                                                                           601
                                                                                                                                                                                          601
                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             상
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               상
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                      ద
                                                                                          ò
                                                                                                                        g
                                                                                                                                                       ò
                                                                                                                                                                                g
                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence encodes human Cdc25C phosphatase, and was expressed in Escherichia coli. It is used to make fusion proteins with Escherichia coli maltones binding protein (MBP). The specification describes fusion proteins of MBP and one of Cdc 25B1, 25B2, 25B3 and 25C. Cdc phosphatases are involved in activation of cyclin-dependent kinases (CDK) that control cell division. The fusion proteins are used to identify modulators of the specified human Cdc phosphatases, potentially useful for regulation of cell division. They are also for studying physiological or physiopathological activities of Cdc phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                  New fusion protein of maltose-binding protein and Cdc phosphatase, useful for identifying phosphatase modulators for regulating the cell cycle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
maltose binding protein; MBP; Cdc25C phosphatase;
cyclin-dependent kinase; CDK; cell division;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCCCCTCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGGTCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCACGCTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        82.0%; Score 2705.8; DB 4; Length 8101; 99.9%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                     (SCRC ) SCRAS SOC CONSEILS RECH & APPL SCI
                                                                                                                                                                                                                                                                                      Prevost
                                                                                                                                                                                                                                                                                      Ducommun B,
                                                                                                                                                                                                                                                                                                                                                                                                   Claim 7; Page 9-13; 56pp; French.
                                                                                                                                                                                       14-DEC-1999; 99FR-00015722
30-MAY-2000; 2000FR-00006883
21-SEP-2000; 2000FR-00012008.
                                                                                                                                                           13-DEC-2000; 2000WO-FR003496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 99.9
Matches 2707; Conservative
                                                                                                                                                                                                                                                                                     Goubin-Gramatica F,
 protein; ma
                                                                                            WO200144467-A2
                                                              Homo sapiens.
                                                                                                                           21-JUN-2001
 Fusion pr
Cdc25B1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
```

요

ઠે

g ઠે a

ઠે

중 음

ઠે

g ò g õ g

```
Cdc25C phosphatase, amine; Cdc25 phosphatase; spontaneous alopecia; alopecia; proliferative disease; parasitic disease; viral infection; neurodegenerative disease; myopathy; anglogenesis; psoriasis; restenosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CdC25C phosphatase. The specification describes the use of arylable substituted secondary or tertiary amines for the production of medicaments for inhibiting Cdc25 phosphatases, especially Cdc25 phosphatases. Pespecially Cdc25C phosphatases. Especially Cdc25C phosphatases. The amines of the invention are used for treating spontaneous alopecia or alopecia induced by exogenous products or addation. They are also used for treating tumoural or non-tumoural proliferative diseases parasitic diseases, viral infections, neurodegenerative diseases are e.g. anglogenesis, psoriais or restenosis. The amines are also useful for inhibiting the proliferation of microorganisms (especially years) and in the treatment of all disorders conventionally treated with vitamin K or its derivatives
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence represents pMAL-HsCdc25C, a plasmid encoding human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cdc25 Phosphatase inhibiting medicaments, useful e.g. for treating diseases, viral infections, neurodegenerative disease or alopecia, containing new or known aryl-substituted amines.
                                                                                                                                                                                                                                                                                                                                                                                                               /noce= "encodes maltose binding protein (MBP)"
2713. 4134
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Goubin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thurieau C,
                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
/note= "ORF of human Cdc25C"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SCRC ) SCRAS SOC CONSEILS RECH & APPL SCI.
                                                                                                                                                                                                                                            Nucleotide sequence of pMAL-Hs Cdc25C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Galcera CMO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure, Page 18-22, 39pp; French.
                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                   BP.
                                                                                                                                                                 8101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-JUL-2000; 2000FR-00009900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-JUL-2000; 2000FR-00009900
                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                 DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Brezak PMC,
                                                                                                                                                                                                                                                                                                                                                                                                       /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2002-166066/22.
                                                                                      GGATCCTCT
                                                                                                                                                                ABL53238 standard;
                                                                        GGATCCTCT
                                                                                                                                                                                                                                                                                                             vitamin K; ss
                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FR2812198-A1
                                                                                                                                                                                                                 17-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Prevost G,
Ducommun B;
                                                                                                                                                                                                                                                                                                                                      Synthetic
                                                                        2701
                                                                                                2701
                                                                                                                                                                                          ABL53238;
                                                                                                                                      a
                                                                     ò
                                                                                                                                     1740
                                                                                                                                                                                                                1800
                                                                                                                                                                                                                                          1860
                                                                                                                                                                                                                                                                    1860
                                                                                                                                                                                                                                                                                              1920
                                                                                                                                                                                                                                                                                                                                                                                                  2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                       2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2160
                                                                                                                                                                                                                                                                                                               1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                                                          GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                                                                                    GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                                                                                                                            2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGGTAACGCTGGCGGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2340
 GCACTTCACCAACAAGGACCATAGATTATGAAAATCGAAGAAGGTAAACTGGTAATCTGG 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2580
                                                                                                                                                GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGGCCAAAAACCTGGGAA
                           ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGGTAAGAATTCGAGAAAAA
                                          ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                              GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                  GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTTAT
                                                                                                                                                                                                           GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                        CGITTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                      CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                             CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2161 recaredeadaderecertraaraageegaaacagegareaceareaggeegege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGGGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCAGCGGTCGTCAGACTGTCGATGAAGCCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                              1621
                                                                                                                                1691
                                                                                                                                                         1681
                                                                                                                                                                                   1741
                                                                                                                                                                                                            1741
                            1561
                                                                                                                                                                                                                                      1801
                                                                                                                                                                                                                                                                                                                                            1921
                                                                                                                                                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2041
  1501
                                                                                                                                                                                                                                                               1801
                                                                                                                                                                                                                                                                                         1861
                                                                                                                                                                                                                                                                                                                                                                      1921
                                                                                                                                                                                                                                                                                                                                                                                                                       1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2581
유
                        ò
                                             중 음
                                                                                                ద
                                                                                                                            ò
                                                                                                                                                  셤
                                                                                                                                                                           ò
                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                      음
                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                             임
                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                      ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
```

tumor

	cccgactggaaagcggcagtgagcgcaacgcaattaatgtgagttagctcactca	GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCCAATGCTTCTGGCG 	TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380		ATTGTGAGCGGATAACAATTTCACACAGGAACAGCCAGTCCGTTTAGGTGTTTTCACGA 		1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGGTT 1680 	GCGGCAACTGGCGGTTTGGCCCTGACATTATCTTCTGGGCACACGGCTTTGGTGGCTACCTTTGTTGGTGGCTACGTTTTGTTGGTGGCCTACGCTTTGGTGGCCTACGCTTTGTTGTTGGTGGCACACGACCGCTTTGGTGGCTACGCTACGCTACGCTACGCTACGCTACGCTACGCTACGCTACGCTACGCTACGCTACGCTACGCTACGCTACGCTAC	1741 GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCGATCGCTGTT 1860 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCTGGCTGTT 1860	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCCGAACCCGCCAAAAACCTGGGAA 1920 	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGAGGGGTTATGCGTTCAAG 2040 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGAGGGGGTTATGCGTTCAAG 2040	2041 TATGAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100 [
a & a	% a	& g .	do do	රු සි	දුරු සු	& &	& A	දු දු	λ O O	<i>₹</i> 8	පි ර	è a	ò 8	òo qa	è 8	& 8 &
Query Match Best Local Similarity 99.9%; Pred. No. 0; Matches 2707; Conservative 0; Mismatches 2; Indels 0; Gaps 0; CCACACCATCGAAACGTGGGAAAACCTTTGGGGGATGATAGGGCCCGGAAGAGA 60	GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGAGGGTATGCCGGTGTTCAGGGTGGTGAAATGTGAAAACCAGTAAACGATATAACGATGTCGAGAAGTATGCGAGAAGTAATGCAGAAACAATAAACGATAATACGAAGAAGTAATGCAGAAACAATAAACGATAATAAAGAAGAAGAAGAAGAAAACAATAAAACAATAAAACAATAAAACAATAAAACAATAAAACAATAAAACAATAAAACAATAAAACAATAAAAAA	121 GTGTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCA	181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 	241 AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC 300 [11	ACGCGCCGTCGCAAATTGTCGCCGCGTTAAATCTCGCGCCGATCAACTGGGTGCCAGCGGCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG	361 TGGTGGTGGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGGGGGGCACAATC 420 	421 TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCGCTGGATGACCAGGATGCCA 480 		CACCCATCAACAGTATTATTTTCTCCCATGAACAGGTACGCGACTGGGCGTGGAGCATC	TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG	661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720 	21 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 	ATGAGGGCATCGTTCCCACTGCGATGCTGCTTGCCAACGATCAGATGGCGCTGGGCGCAA	### ### ##############################	ACGATACCGAAGACACATTATATATCCCGCGTTAACCACATCAAACAGAAGTTTTC	GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGTGAACTGTTCTCTCAGGGCCAGGCGGTGAACCGTGCTGCTGCTGCAACTCTCTCAGGGCCAGGCGGTGAACCGCTTGCTGCTGCAGCGTCGGCCGGTGGAACCGCTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG

```
ઠે
                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                         2340
                                                                                                           2340
                                                                                                                           2400
                                                                                                                                            2400
                                                                                                                                                              2460
                                                                                                                                                                                                                                                                    2640
                                                                                                                                                                     2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                             TTGGCGAAAGATCCACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                          2461 TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                               CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACCGCGGTGATCAACGCC 2580
                                                                                                                                                                                                                                                   2580
                                                                                                                                                                                                                                                                                                       2700
                                                                                                                                                                                                                                                                            2641 AACAACAACAACAATAACAATAACAATAACAACCTCGGGATCGAGGGGAAGGATTTCAGAATTC 2700
                                                              2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                       GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACATGAATGCAGACACCGATTAC
                                                   GCATGGTCCAACATCGACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                      AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGTGAGCGCAGGTATTAACGCCGAGT
                                                                                                   AAGGGTCAACCATCCAAACCGTTCGTTGGTGGGGCGCAGCTATTAACGCCGCCAGT
                   TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                              TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                         GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                               2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                   2641 AACAACAACAATAACAATAACAACATCGGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA encoding MBP-ToxoP30del8(82-294aa) fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                   BP.
                                                                                                                                                                                                                                                                                                                                                                                                 AD023608 standard; DNA; 7259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                       GGATCCTCT 2709
                                                                                                                                                                                                                                                                                                                                                      2701 GGATCCTCT 2709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAINE G T.
PATEL C B.
GINSBURG S R.
BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic.
                                    2161
                                                    2221
                                                                                       2281
                                                                                                       2281
                                                                                                                         2341
 2101
                  2161
                                                                                                                                                           2401
                                                                                                                                          2341
                                                                                                                                                                                              2461
                                                                                                                                                                                                                                                                  2581
                                                                                                                                                                                                                                                                                                                                     2701
                                                                                                                                                                                                                               2521
                                                                                                                                                                                                                                                                                   2581
                                                                                                                                                                                                                                                                                                                                                                                                                 AD023608;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (PATE/)
(GINS/)
(BLIE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (MAIN/)
                                                                                                                                                                                                                                                                                                                                                                                       RESULT
유
                ò
                              요
                                                                 셤
                                                                                     ઠે
                                                                                                  8 8
                                                                                                                                      a
                                                                                                                                                                        g
                                               ઠે
                                                                                                                                                        ઠે
                                                                                                                                                                                           ò
                                                                                                                                                                                                            g
                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                           કે
                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                     ò
```

```
The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 aniho acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30de14C(52-294aa) and MBP-Toxo30mIX1 [Toxo30de13C(52-300aa), MBP-Toxo30de14C(52-294aa) and MBP-Toxo30mIX1 [Toxo30de14C(52-294aa) and mBp-Toxo30mIX1] [Toxo30de13C(52-300aa), mBP-Toxo30de14C(52-294aa) and mBp-Toxo30mIX1] [Toxo30de13C(52-300aa), mBP-Toxo30de14C(52-294aa) and mBp-Toxo30mIX1] [Toxo10des to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of contanting the jgM antibodies with a composition comprising (1) and detecting the presence of (1)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-Toxo30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 CGCGGGAAAAAGCGGAGGGGAGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 AACAACTGGGGGGAAACAGTGGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301 ACGCCCCTCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                     Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIXI, useful for detecting presence of IgM or antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 12; Length 7259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 7259 BP; 1870 A; 1822 C; 1926 G; 1641 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6; Indels
Bliese TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
81.5%; Score 2690.4;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches
Ginsburg SR,
                                                                                                                                                                                                                                                                                    Example 2; Fig 22; 114pp; English
Patel CB,
                                                     2004-304563/28
                                                                                   P-PSDB; ADO23609
Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
```

Page 17

8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	SUL
TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTTGTCTCGG CGCGTCTCGCTTGCGTGGCTGCAAATCGCCGTTTAGCGGGCCCATTAAGTTCTGCCGATAG CGCGTCTGCGTTGGCTGGCTGGCTAAATATCTCACTCGCAATCAAT	1321 TGTCGCTCAAGGCGCACTCCGGTTCTTTTTGCGCCGACATCATAACGGTT 1380 TGTCGCTCAAGGCGCACCCCGTCTCGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCTCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380 1381 CTGGCAAATATTCTGAAATGACTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 1441 ATTGTGAGCGATAACAATTACACAATTAACATCACTACGGCTCGTTTAAGTGTGTGGA 1450 1441 ATTGTGAGCGATAACAATTTCACAAGAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 1441 ATTGTGAGCGATAACAATTTCACAAGAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 1501 GCACTTCACCAACAACAACAGCCAAGAACAGCCAGTCGGTAAACAGCTATTACGAGAACAGCCAATAGAAACAGAACAGAACAGAAACAGCCAATAGAAACAGAAAAACGAAAAAACAGAAAAAACAGAAAAAAA

```
셤
       ð
       ઠે
```

8 ò 유 8 %

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIXI sequences, having 1-6 anino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in which at least one of Toxo30del3C P30 antigen sequence is substituted amino acid sequence of Toxo30del3C P30 antigen sequence chosen from MBP-Toxo30del3C P30 antigen sequence chosen from MBP-Toxo30del3C P30 antibodise to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of [I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-ToxO30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30de13C, Toxo910 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                            P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81.5%; Score 2690.4; DB 12; Length 7322; 99.8%; Pred. No. 0; ative 0; Mismatches 6; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 7322 BP; 1887 A; 1844 C; 1934 G; 1657 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                DNA encoding MBP-ToxoP30dell0(52-284aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 2; Fig 25; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                              02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-OCT-2002, 2002US-00263153
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 2694; Conserv
                                                                                                                                                                                                                            Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P-PSDB, AD023614
                                                                                                                                                                                                                                                                                                                 US2004067239-A1
01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                           08-APR-2004
                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
```

1020 1020 1140 1320 360 480 480 420 420 540 900 600 999 99 720 720 780 840 840 780 900 900 960 960 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC TGGTGGTGTTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC TTCTCGCGCAACGCGTCAGGGCTGATCATTAACTATCCGGTGGATGACCAGGATGCCCA TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA CGCGTCTGCGTTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGGGTGGAGCATC TGGTCGCATTGGGTCACCAGCAAATCGCGCGTTTAGCGGGCCCCATTAAGTTCTGTCTCGG CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG redregeatresercaccaaaarcececretrasecesecceatraastrererese TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 961 GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTGTGGCG 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT GCACAATTOTOATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 199 301 361 361 421 481 541 601 721 421 481 541 601 661 721 1021 1081 841 196 1081 1141 1201 1201 1261 ò g ò a ò g à g d 8 8 8 à g à g ò ద ò g ò d ò 엄 a ò ò ద ò 셤 à 임 õ g

us-09-765-555b-18.rng

유

원

ઠે

6 8 6

В

ે

8 4 8 4 8 8

```
2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ij.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del3C P30 antigen sequence, or comprising an amino acid sequence is amino acid sequence is amino acid sequence is amino acid sequence is amino acid sequence is amino acid sequence is amino acid sequence is undestinated with alamine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C(52-300aa), MBP-Toxo30del4C(52-294aa) and MBP-Toxo30MIX1 antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel purified polypeptide having sequence identity to amino acid sequence of F910 antigen of Toxoplasma gondii e.g. Toxo30de13C, Toxo30de12C, Toxo30de12C, Toxo20de12C, antibodies to Toxoplasma gondii.
                                                                                                                                                                               AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGGTTTCAGAATTC
                                                                    TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAAGCCCCAGAAAGGTGAAATCATG
                                                                                                                                                P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCTGCTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA encoding MBP-ToxoP30del4C(52-294aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 2; Fig 19; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                BP
                                                                                                                                                                                                                                                                                                                                                                ADO23603 standard; DNA; 7352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2004-304563/28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P-PSDB; ADO23604.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                  2641
                                                                                                                                                                                                                                                                                                                                                                                                  ADO23603;
                  2401
                                                 2461
                                                                                2461
                                                                                                                 2521
                                                                                                                                                 2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Maine
                                                                                                                                                                                                                                                                                                                                 RESULT 1(
ADO23603
                                                                                                                                           요
                                                                                                                                                                        중 원
                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                        à
                                                                                                                                                                                                                                              ò
                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2220
                                                                                                                                                                                                                                                                                                                                                                                                                                 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1860
                                                                                                 1440
                                                                                                                                    1500
                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                                                                  1740
GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAGAAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                     GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGCCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGTTTACCTGGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGCAAGAACCGTACATTCACCTGGCCGCTGATTGCTGCTGACGGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGGTAACGCTGGCGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGGTGGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                  ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                 ACCEGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                  ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                  GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACATGATGAATGCAGACACGGTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTIGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTTAGGTGTTTTCACGA
                                                                                                                                                                                                  GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGGCTCAACCATCCAAACCGTTCGTTGGCGTGGTGGGCGCTATTAACGCCGCCAGT
                                                                                                                                                                 1441
                                                                                                                                                                                                                                                                                                1561
                                                                                                                                                                                                                                                                                                                               1621
                                                                                                                                                                                                                                                                                                                                                                1621
                                                                                                                                                                                                                                                                                                                                                                                                                                 1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2341
                                                                                                1381
                                                                                                                                1441
                                                                                                                                                                                                                                                               1561
                                                                                                                                                                                                                                                                                                                                                                                                  1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2221
                                                                                                                                                                                                1501
                                                                                                                                                                                                                               1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                 1381
                                  1321
```

셤

8 &

g

ò

g

ઠે

ያ የ

ઠે

පු

6 6 6

8 &

ઠે

8

જે

g

ઠે

8883	with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.	<i>ŏ</i>	961 GCCTGCTGGC
Ş	Sequence 7352 BP; 1896 A; 1852 C; 1943 G; 1661 T; 0 U; 0 Other;	qa	961 GCCTGCTGGG
2 8	Query Match Best Local Similarity 99.8%; Pred. No. 0;	ò 5	1021 AGGCCAATCA
ω	tches 2694; Conservative 0; Mismatches 6; Indels 0; Gaps 0;	3 8	
ò á	CGGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCGTGTGATGGCGCCCGGAAGAGA	÷ 8	1081 CGCAAACCGC
3 8		ò	
3 8	61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAAGGTTATACGAGGTGATGCGG 120	q	
Ś	このでは、「は、これでは、これでは、これでは、これでは、これでは、これでは、これでは、これで	ò	1201 GCACAATTCT
3 8	121 GTGTCTCTTATCAGACCGTTTTCCCGCGTGAACCAGGCCACGTTTTCTGCGAAAA 180	qa	 1201 GCACAATTCT
ò		ò	1261 TCAGGCAGCC
đ	181 GGGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACGCGTGGAAC 240	qq	1261 TCAGGCAGCC
ò		ð	1321 TGTCGCTCAA
qq	241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC 300	q _C	1321 TGTCGCTCAA
ò		à	1381 CTGGCAAATA
qq		අු	1381 CTGGCAAATA
ò		ò	1441 ATTGTGAGCG
qu		셤	1441 ATTGTGAGCG
ò		ò	1501 GCACTTCACC
QQ		ପ୍ର	1501 GCACTTCACC
ò		ò	1561 ATTAACGGCG
q	481 TIGCIGIGGAAGCIGCCIGCACTAAIGIICCGGCGITATITCIIGAIGICICIGACCAGA 540	ପ୍ର	1561 ATTAACGCG
ò	541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 600	ò	1621 ACCGGAATTA
qa	541 CACCCATCAACAGIATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC 600	ପ୍ଧ	1621 ACCGGAATTA
ò	601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTG	ò	1681 GCGGCAACTG
qq	601 IGGICGCATIGGGICACCAGCAAATGGGGTGTTAGGGGGCCCATTAAGTTCTGTCTCGG 660	qq	1681 GCGGCAACTG
ò	661 ÇGÇGTÇTGÇGÇTÇGGÇTGGÇATAAATATÇTCACTÇGCAATCAAATTCAGCCGATAG 720	ò	1741 GCTCAATCTG
q	661 CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG 720	qq	1741 GCTCAATCTG
ò	721 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780	ò	1801 CCGTTTACCTC
ପୁ	721 CGGAACGGAAGGCGACTGGAGTGCCATGTCGGTTTTCAACAAACCATGCAAATGCTGA 780	qq	1801 ccdriraccr
ò	781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840	ò	1861 GAAGCGTTAT
q		q	1861 GAAGCGTTATC
ò	841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900	ð	1921 GAGATCCCGG(
අු	841 IGGGGGCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGGATACG 900	දු ද	-
ò	901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTC 960	ð á	
d ,	901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	a	1981 CIGCAAGAACC

AGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCCGGGGCCCAATA 1080 GGGAAACCAGGGGGGCGCTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 GGCGATGGCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740 SCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT TCATOTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG CATCGGAAGCTGTGGAATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG AGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGGCGACATCATAACGGTT ATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA GGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT CGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG

g

g

8

원

ઠે

셤 ઠે 요 ઠે

8

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in which at least one of Toxo30del3C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C(52-294aa) and MBP-Toxo30del3C(52-294aa) and MBP-Toxo30MIX1 fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-Toxo2030 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                       Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGGGGGTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGGGGGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 AACAACTGGCGGGCAAACAGTGGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCCCCCCCCAAATTGTCCCCGCCATTAAATCTCGCCCCGATCAACTGGCTGCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches 6; Indels 0; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 7370 BP; 1901 A; 1855 C; 1949 G; 1665 T; 0 U; 0 Other;
                               Ŧ,
                               Bliese
                               Ginsburg SR,
                                                                                                                                                                                     Example 2; Fig 15; 114pp; English
                                                                                                                                                        antibodies to Toxoplasma gondii.
                             Patel CB,
                                                          WPI; 2004-304563/28
P-PSDB; ADO23599.
BLIESE T R.
                               Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
(BLIE/)
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                               2400
                                                                                                                                                                                                                                                                                                                                                                                2460
                                                                                                                                                                                                                                                                                                                                                                                                                                            2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2700
                                                                                         2160
                                                                                                                         2220
                                                                                                                                                                                                                                                   2340
                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                              TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                       GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                    CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                              GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                  GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                          GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACAACATGAATGCAGACACCGATTAC
                                                                                                                         TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                     GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                   AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA encoding MBP-ToxoP30del3C(52-300aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADO23598 standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US2004067239-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Toxoplasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                      2161
                                                                                                                                                                                                                                                   2281
                                                                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                                                                                2341
                                                                                                                                                                                                                                                                                                                                                 2341
                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                          2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AD023598;
                                                                                                                         2161
                                                                                                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2641
                                                                                        2101
                                                                                                                                                                                     2221
                                                                                                                                                                                                                    2221
                                                          2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 11
```

요

셤

ò

g

ð

g

ò

a

ò

셤

ઠે

ö

3 08:46:03 2005	CACCCATCAACAGTATTATTTTCTC	TGGTCGCATTGGGTCACCAGCAAAT
Aug	541	601
Wed Aug		

ACCGC TCCAGC TCCAGC	1801 CCGTTTACCTGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 186 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCAAAAAACCTGGATGCTGTT 186 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGGCCAAAAACCTGGGAA 192 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAAACTGGGGAA 192	QY 1921 GAGATCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGGCGCCTGATGTTCAAC 1980 DD 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCCCTGATGTTCAAC 1980 QY 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCTTCAAG 2040 DD 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCTTCAAG 2040	QY 2041 TATGAAAACGCAAGTACGACATTAAAGACGTGGGCGCGGAAAGCG 2100 Db 2041 TATGAAAACGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100 QY 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAAGAATGCAGCACGAATAC 2160	2161	OY 2221 GCATGGTCCAACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	2281	2341	2401	2461 T 2461 T 2461 T	Oy 2521 CCGAACATCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	2581	CY 2641 AACAACAATAACAATAACAACAACCTCGGGATCGAGGAAGGA	RESULT 12 ADO23639 ID ADO23639 standard; DNA; 7370 BP.
AGCATC TCTCGG CCTCGG CGATAG		Qy 841 TGCGCGCCATTACCGAGTCCGGGCTTGGTGCGANTATCTCGGTAGTGGGATACG 900 Db 841 TGCGCCCATTACCGAGTCCGGGCTTGGTGCGGATATCTCGGTAGTGGGATACG 900 Qy 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCGTTAACCACCATCAAACAGGATTTTC 960 Db 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 Db 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960		*AGCTGTTGCCCGTCTCACTGGTGAAAGAAAAACACACCTGGCGCC ICCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGAC 	ATTAG ATTAG	OY 1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260 Db 1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCGATGCTTCTGGCG 1260	Qy 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320 Db 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTAGGTCGTAAATCACTGCATAATTCG 1320	dy 1321 TGTCGCTCAAGGGGACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 Db 1321 TGTCGCTCAAGGGGACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380	Qy 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 Db 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440	QY 1441 ATTGTGAGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 DD 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500	GTAATCTGG	QY 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620 DD 1561 ATTAACGGCGATAAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGA 1620	Oy 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAATTCCCACAGGTT 1680 Db 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680

us-09-765-555b-18.rng

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 960
                                                                                                                                                                  420
                                                                                                                                                                                                  480
                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                               TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AFGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGGCGCACCAATGCTTCTGGCG
                                  AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                  ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                  TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGGCATCGTTCCCACTGCGGATGCTGCTACCAATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              recececcarraceaagreceaecrececerragreceaanarereegragreegarace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGATACCGAAGACAGCTCATGTTATATCCCGCGGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCAAACCGCCTCTCCCCGGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                 TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                  TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cecercrecercreecreecreecaraararcrcacreecaarcaaarrcaecearae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                   241
                                                                                                 301
                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1261
                                                                                                                                                                  361
                                                                                                                                                                                                  421
                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                    301
                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                             ద
                                                                                                                                                         셤
                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                            음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQ
                                                             8
                                                                                                                       ℰ
                                                                                                                                                                                                5
                                                                                                                                                                                                                                                       ठ
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del2C and Toxo30 MIX1 sequences, having 1-6 maino acids added to the C-terminus condition acids sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30del3C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C P32.294aa) and MBP-Toxo30del3C P32.294aa) and MBP-Toxo30MIX1 fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxopiasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                             P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, Toxo930 MIXI, useful for detecting presence of IgM or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 7370 BP; 1900 A; 1856 C; 1950 G; 1664 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 12;
                                DNA encoding MBP-ToxoP30MIX1 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81.5%; Score 2690.4;
99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                               Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                               SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 5; Fig 31; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                               Ginsburg
                                                                                                                                                                                                                                              02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                               02-OCT-2002; 2002US-00263153
01-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similaring Matches 2694; Conservative
                                                                                                                                                                                                                                                                                                              MAINE G T.
PATEL C B.
GINSBURG S R.
BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                               Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                 Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                 P-PSDB; ADO23640.
                                                                                                                                                                              US2004067239-A1.
                                                                                                                                                                                                                08-APR-2004
                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                            (MAIN/) N
(PATE/) I
(GINS/) C
(BLIE/) E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
```

임

ઢ

g

ઠે

ద

2700 2700

윱 ઠે ያ ያ g ò 요 ઠે 유

ద ઠે

ઠે සි දි 셤 ò 셤 엄 8 6 8 8 ठे 셤 ઠે 요 요

음 수 음

8 8 8

8 & 8

ઠે

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C(52-300aa), MBP-Toxo30del4C(52-294aa) and MBP-ToxO30MIX1 fusion proteins. (I) is useful for detecting the presence of IgM
                                           GAAGCGCTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                     TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAAGGTGAAATCATG
                                                                                                                                    CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                              GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                      AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŢŖ,
                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA encoding MBP-ToxoP30MIX5 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 5; Fig 35; 114pp; English
                                                                                                                                                                                                                                                                                                                                                            BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ginsburg
                                                                                                                                                                                                                                                                                                                                                         standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-OCT-2002; 2002US-00263153.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-304563/
P-PSDB; AD023650.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic.
                                                 2401
                                                                                                                                                                                                                                                      2641
                        2401
                                                                                                           2461
                                                                                                                                      2521
                                                                                                                                                                   2521
                                                                                                                                                                                               2581
                                                                                                                                                                                                                          2581
                                                                                                                                                                                                                                                                                  2641
                                                                              2461
                                                                                                                                                                                                                                                                                                                                                                                     ADO23649;
                                                                                                                                                                                                                                                                                                                                                         AD023649
                                                                                                                                                                                                                                                                                                                             RESULT 13
                                                                                                                                                                                                                                                                                                                                            AD023649
                                          g
                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                   셤
                                                                                                                             ò
                                                                                                                                                           g
                                                                                                                                                                                            ò
                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                           셤
                                                                                                                                                  1500
                                                                                                                                                                                                                                     1560
                                                                                                                                                                                                                                                                                              1620
                                                                                                                                                                                                                                                                                                                           1680
                                                                                                                                                                                                                                                                                                                                                                                                             1740
                                                                                                                                                                                                                                                                                                                                                                                                                                           1800
TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
                                                                                                                                                                                                                                                            ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGGTAAGAAATTCGAGAAAGAT 1620
                                                                                                                                                                                                                                                                                                                                                                           GCGGCAACTGGCCGATGGCCCTGACATTATCTTCTGGCCACGACGGCTTTGGTGGCTAC 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                   CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                      CIGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                  ATTGTGAGCGGATAACAATTTCACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                     ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                 GCGGCAACTGGCCCTTATCTTCTGGGCCCACGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CIGCAAGAACCGTACATTCACCTGGCCGCTGATTGCTGCTGACGGGGGGTTATGCTGTTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCATGGTCCAACATCGACACCCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGTCTGACCTTCCTGGTTGACCTGATTAAAACACACATGAATGCAGACACGGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1381
                                                                                                               1381
                                                                                                                                            1441
                                                                                                                                                                       1441
                                                                                                                                                                                                     1501
                                                                                                                                                                                                                                                                                                                                                1621
                                                                                                                                                                                                                                                                                                                                                                                                                                   1741
   1261
                            1321
                                                                                                                                                                                                                                                             1561
                                                                                                                                                                                                                                                                                                                     1621
                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2041
                                                                                                                                                                                                                                                                                                                                                                                                        1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2341
```

```
1561
                                                                                                                                                                                          1261
                                                                                                                                                                                                          1261
                                                                                                                                                                                                                          1321
                                                                                                                                                                                                                                                                                            1441
                                                                                                                                                                                                                                                                                                            1441
                                                                                                                                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                                                                                                                                                                            1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1921
                                                                        1021
                                                                                                         1081
                                                                                                                          1141
                                                                                                                                          1141
                                                                                                                                                         1201
                                                                                                                                                                          1201
                                                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                             1561
                                                                                                                                                                                                                                                                                                                                                                                                                              1681
                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1981
                                        961
                                                         1021
                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                             1621
         901
                         961
                                                                                                                                                                                                                                                                                                                                                                                                       d
         음 성 음
                                                  8 6 8 6
                                                                                                                    8 6 8 6
                                                                                                                                                                                        8
                                                                                                                                                                                                    유
장
                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                       ે
                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                 ö
                                                                                                                                                 120
                                                                                                                                                                 180
                                                                                                                                                                                  180
                                                                                                                                                                                                  240
                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                     99
                                                                                                                                                                                                                                                                                                                                                                                                                                                     999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                 120
                                                                                                9
                                                                                                                9
antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-Toxop10 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGCGCCGTCGCAAATTGTCGCGCGGTTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGGGTGGAGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                          CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                 GTGTCTCTTATCAGACCGTTCCCGCGTGGTGAACCAGGCCACGCTTCTGCGAAAA
                                                                                                                                                                             CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                            AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                   Acececcerceaarrereceescearraarrereceescearcaeresereceese
                                                                                                                                                                                                                                                                                                    TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGCGGTGCAATC
                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                    TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGTCTGCGTCTGGCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAACGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Angadoccancenteccarrectaricerocarcearcaarcaarcaarcacarcacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       recedentraceastreceserrecederrecrecesararerecarateres
                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                             CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                   AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                  Gaps
                                                                Length 7370;
                                                                                 .
0
                                                 Other;
                                                 0 0,0
                                                                                 Indels
                                                                12;
                                                 Ë
                                                                                 . 9
                                                                8
                                                Sequence 7370 BP; 1900 A; 1857 C; 1950 G; 1663
                                                               Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                81.5%;
99.8%;
                                                              Query Match
Best Local Similarity 99.8
Matches 2694; Conservative
                                                                                                н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                  61
                                                                                                                                                                 121
                                                                                                                                                                                  121
                                                                                                                                                                                                  181
                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
88888888
                                                                                                           요
                                                                                                                           8 8 8
                                                                                                                                                                            음 승 음
                                                                                                                                                                                                                           8 6 6
                                                                                                                                                                                                                                                                                              6 B 6 B 6 B 6 B 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ठ
                                                                                                ઠ
```

1620 1080 1140 1200 1260 1260 1320 1320 1380 1380 1440 1440 1500 1560 1560 1680 1680 1800 1800 1860 1920 1920 1980 1980 1200 2040 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGACGGGGGTTATGCGTTCAAG GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCG TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGATGGA ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG GCGCCACACGACCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTTTTTAT GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCTGGGAA GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA GAGATCCCGGCGCTCGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCGCTGATGTTCAAC GCCTGCTGGGGGCAAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGGGCCAGGCGGTGA GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCAACTCTCTCAGGGCCAGGCGGTGA CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA **ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCCGGTAAGAAATTCGAGAAAGAT** ACCEGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAAATTCCCACAGGTT GCGGCAACTGGCGATGGCCCTGACATTATCTTGGGCACACGACCGCTTTGGTGGCTAC GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT

```
ò
                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040
                      2100
                                                                                         2220
                                                                                                                            2280
                                                                                                                                                               2340
                                                                                                                                                                                                 2400
                                                                                                                                                                                                                                   2460
                                                                                                                                      2221 GCATGGTCCAACATCGACACCAAGCAAGTGAATTATGGTGTAAAGGGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                     2460
                                                                                                                                                                                                                                                                                                        2580
                                                                                                                                                                                                                                                                                                                        2580
                                                                                                                                                                                                                                                                                                                                          2640
                                                                                                                                                                                                                  2400
                                                                                                                                                                                                                                                                                 2461 Tradecdaaadarecaceratracedecacratacaaaacececadaaagereaaricare 2520
                                                                                                                                                                                                                                                                                                                                                                        2641 AACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                             2700
                                                                                                AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                  TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                       GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTC
                                                                                                                                                                                             2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                       TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                           TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                   2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                  2581 GCCAGCGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCCAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                 2641 AACAACAACAACAATAACAATAACAATACAACTCGGGATCGAGGGATTTTTCAGAATTC
                                                                                                                                                                                                                                                 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                     CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                       GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        encoding MBP-ToxoP30MIX3 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                    AD023644 standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P30 antigen, Tox
MBP-Toxo30del3C(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-APR-2004
                                  2041
                                                  2101
                                                                    2101
                  2041
                                                                                       2161
                                                                                                       2161
                                                                                                                         2221
                                                                                                                                                          2281
 1981
                                                                                                                                                                            2281
                                                                                                                                                                                                                                                                 2461
                                                                                                                                                                                              2341
                                                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                                                                                     2521
                                                                                                                                                                                                                                                                                                                                       2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA
                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                 δ
                                음 강
                                                                g
                                                                                     ò
                                                                                                   셤
                                                                                                                                       g
                                                                                                                                                                        a
                                                                                                                   ઠે
                                                                                                                                                        ઠે
                                                                                                                                                                                            ò
                                                                                                                                                                                                           g
                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                 გ
                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                    유
```

(MAIN/) MAINE G

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30de13C(52-300aa), MBP-Toxo30de14C(52-294aa) and MBP-Toxo30miX1 fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-ToxoP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                     Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CCGACACCATCGAATGCTGCAAAACCTTTCGCGGTATGGCATGATGGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 GTCAATTCAGGGTGCTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 GIGICICITATCAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 GGCGGGAAAAAGTGGAAGCGGCGATGGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 ACGCGCCGTCGCAATTGTCGCGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 idelidererceárderádadedadededecerceradadecededededeáric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TIGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTCACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCTCGCGCAACGCGTCAGTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 7370 BP; 1900 A; 1857 C; 1950 G; 1663 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 12;
                                                                                            Bliese TR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81.5%; Score 2690.4;
99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                         Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                            Example 5; Fig 33; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 99.8
Matches 2694; Conservative
                                                                                   Maine GT, Patel CB,
GINSBURG S BLIESE T R.
                                                                                                                                             WPI; 2004-304563/28
                                                                                                                                                                       P-PSDB; ADO23645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
  (GINS/)
(BLIE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
```

1611	LT 15
1 5 5 6	RESULT
COCCOTTOM/CAGINITIEST COCCOTTOM/CAGINCOCONTOCOCCOTTOM/CAGINCOCCOTTOM/CAGINCOCOTTOM/CAGINCOCCOTTO	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAAATTCCCACAGGTT 1680

BP.

ADO23594 standard; DNA; 7403

```
241
                                                                                               301
             181
                                                                                                                                       361
                                                                                                                                                           361
                                                                                                                                                                              421
                                                                                                                                                                                                   421
                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                            a
                                                  ठ
                                                                     g
                                                                                            à
                                                                                                             g
                                                                                                                                    à
                                                                                                                                                       g
                                                                                                                                                                           ò
                                                                                                                                                                                               g
                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIXI sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del3C P30 antigen sequence, or comprising an amino acid sequence in amino acid sequence of the five C-terminal cysteine amino acid sequence in with alanine, or comprising the amino acid sequence is substituted with alanine, or comprising the amino acid sequence from MBP-CC Toxo30del3C (52-30daa), MBP-Toxo30del3C (52-30daa), MBP-Toxo30del4C (52-394aa) and MBP-Toxo30MIXI antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of contaning the IgM antibodies CC with a composition comprising (I) and detecting the presence of (I)/IgM complexes. The present sequence represents DNA encoding a MBP-VX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                               P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; da; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                             Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, Toxop30 MIXI, useful for detecting presence of IgM or antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Beet Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches 6; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7403 BP; 1907 A; 1863 C; 1961 G; 1672 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                             encoding MBP-ToxoP30del2(52-311aa) fusion protein.
                                                                                                                                                                                                                                                                                                 TR;
                                                                                                                                                                                                                                                                                                Bliese
                                                                                                                                                                                                                                                                                              Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                               Example 2; Fig 11; 114pp; English.
                                                                                                                                                                                                02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                     02-OCT-2002; 2002US-00263153
                                          (first entry)
                                                                                                                                                                                                                                       (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                              Patel CB,
                                                                                                                                                                                                                                                                                                                WPI; 2004-304563/28.
P-PSDB; ADO23595.
                                                                                                                          Toxoplasma gondii
Synthetic.
                                                                                                                                                       US2004067239-A1
                                        01-JUL-2004
                                                                                                                                                                            08-APR-2004
                                                                                                                                                                                                                                                                                             GT,
                                                                                                                                                                                                                                                                                             Maine
```

심 ò

8 6

```
240
                                                   300
                                                                                              360
                                                          360
                                                                                                                                          420
                                                                                                                                                              420
                                                                                                                                                                                     480
                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1020
                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1140
                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                    099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                         999
                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                           AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                     ACGCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGAATCAACTGGGTGCCAGCG
                                                                                                  TGGTGGTGTCGATGGTAGAACGAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                     TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAACACGGTACGCGACTGGGCGTGGACGTC
                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                   CGGAACGGGAAAGGCGACTGGCCATGTCCGGTTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTCGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCTGCTGGGGCAAACCAGCGTGGACGCGGTGAACTCTTCAAGGGCCAAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
```



```
CITY: Nu...
STATE: N.J.
COUNTRY: U.S.A.
T'D: 07110
\begin{array}{c} \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{n} \\ \mathbf{
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-971-036-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-971-036-1
                                                                                                              11999.2
11999.2
11999.2
11999.2
11999.2
11999.2
11999.2
11999.2
11999.2
11999.2
11999.2
11999.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
   000000000000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3, Appli
Sequence 2, Appli
Sequence 5, Appli
Sequence 18, Appli
Sequence 21, Appli
Sequence 18, Appli
Sequence 18, Appli
Sequence 785, Appli
Sequence 785, Appli
Sequence 785, Appli
Sequence 785, Appli
Sequence 785, Appli
Sequence 785, Appli
Sequence 785, Appli
Sequence 785, Appli
Sequence 786, Appli
Sequence 786, Appli
Sequence 786, Appli
Sequence 786, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
Sequence 784, Appli
                                                                                                                                                                                                                                                    August 2, 2005, 10:29:49 ; Search time 352.4 Seconds (without alignments) 15322.682 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      784, App
7, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3
Sequence 3
Sequence 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Issued_Patents NA:*

(cgn2_6/ptodata/1/ina/5A_COMB.seq:*
): /cgn2_6/ptodata/1/ina/5B_COMB.seq:*
): /cgn2_6/ptodata/1/ina/6A_COMB.seq:*
): /cgn2_6/ptodata/1/ina/PcTUS_COMB.seq:*
): /cgn2_6/ptodata/1/ina/PcTUS_COMB.seq:*
): /cgn2_6/ptodata/1/ina/PcTUS_COMB.seq:*
                                   GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-971-036-1

US-09-096-570-1

US-09-066-570-1

US-09-640-882-2

US-09-640-882-3

US-09-640-882-3

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-103-35

US-08-103-35

US-09-702-705-785

US-09-736-457-785

US-09-736-457-785

US-09-736-457-785

US-09-671-124B-785

US-09-671-124B-785

US-09-65-437A-62

US-09-65-437A-62

US-09-65-437A-62

US-09-65-437A-62

US-09-65-437A-62

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-671-325-784

US-09-68-884-784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1202784 segs, 818138359 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                         OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-765-555B-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13562
13562
1367
13690
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
111990
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
11190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
1190
                                                                                                                                                                                                                                                                                                                                                                                                                  Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seguence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                    Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Result
No.
```

```
28 1199 2 36.3 6737 2 10.00-891.842 2 8equence 2, Appliant 199.2 36.3 6737 2 10.00-891.8482 2 8equence 2, Appliant 20 1199 2 36.3 6737 2 10.00-891.8482 2 8equence 2, Appliant 20 1199 2 36.3 6737 2 10.00-891.8482 2 8equence 2, Appliant 20 1199 2 36.3 6737 2 10.00-891.8482 2 8equence 2, Appliant 20 1199 2 36.3 6793 2 10.00-158-314 5 8equence 2.0 Appliant 20 1199 2 36.3 7678 3 10.00-90.25-56-208 8equence 2.0 Appliant 20 1199 2 36.3 7678 3 10.00-90.25-56-208 8equence 2.0 Appliant 20 1199 2 36.3 7678 3 10.00-90.27-56-208 8equence 2.0 Appliant 20 1199 2 36.3 7678 3 10.00-90.27-56-208 8equence 2.0 Appliant 20 1199 2 36.3 7678 3 10.00-90.27-56-208 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-27-56-208 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-27-56-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-27-56-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-27-56-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-254 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-24 8equence 2.0 Appliant 20 1199 2 36.3 8014 8 10.90-96-24-24 8equence 2.0 Appliant 20 1199
```

g

g ò 요 ò

ò

8

셤

ઠે

셤

g ò g ð 셤

ò

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCGTGTGATGATGGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GIGICTCTTATCAGACGTTTCCCGCGTGGACCAGGCCAGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGCGCCGTCGCAAATTGTCGCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481 Trecrereda Agerecereca craarerrece de cerrarrerre a recrea ca de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de la recrea de l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  resrestreatestasaacsaacsascerceateaascereraaascescereraare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                               Length 7475;
                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                             81.8%; Score 2700; DB 3;
100.0%; Pred. No. 0;
iive 0; Mismatches 0;
REFERENCE/DOCKET NUMBER: RAN
TELECHONIC (1973) 235-4387
TELEPHONE: (973) 235-4387
TELEPKX: (973) 235-2363
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 7475 base pairs
                                                                                                                                                                      TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: circular
MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
Matches 2700; Conservative
                                                                                                                                                                                                                                                                               , HYPOTHETIC,
US-09-096-570-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                         2400
                                                                                                                                                                                                                                                                                                                                                                                                                          2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2640
                                                                                                                           2280
                                                                                                                                                                                                                                                                          2340
                                                                                                                                                                                                                                                                                                                           2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2641 AACAACAACAACAATAACAATAACAACACCCCGGGAICGAGGGAGGATTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2641 AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                     TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                            TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                     GCATGGTCCAACAACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                      2401 GAAGCGGTTAATAAAGACAAACCGCTGGCTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461 TIGGCGAAAGAICCACGIAIIGCCGCCACCAIGGAAAACGCCCAGAAAGGIGAAAICAIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                    2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCCGACCTTC
                                                                                                                                                                                                                       AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                      AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                          GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER NEADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
APPLICATION NUMBER: US/09/096,570
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application US/09096570
Patent No. 6018020
GENERAL INFORMATION:
APPLICANT: Attwood, Michael R
APPLICANT: Hurst, David N
APPLICANT: Hones, Philip S
APPLICANT: Raynham, Tony M
APPLICANT: Raynham, Tony M
APPLICANT: Wilson, Francis X
TITLE OF INVENTION: Amino Acid Derivatives
NUMBER OF SEQUENCES: 2
CORRESPONDENCES: 2
CORRESPONDENCES: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Hoffmann-La Roche Inc.
STREET: 340 Kingsland Street
CITY: Nutley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/971,036
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Kreisler, Lewis J
REGISTRATION NUMBER: 38522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE: N.J.
COUNTRY: U.S.A.
ZIP: 07110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 2
US-09-096-570-1
                                                                                                                                                                                                                                                                       2281
                                                                       2161
                                                                                                                                                                                                                         2281
                                                                                                                                                                                                                                                                                                                        2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2581
                            2161
                                                                                                                        2221
                                                                                                                                                                                                                                                                                                                                                                                                                          2401
```

us-09-765-555b-18.rni

Page 4

QY 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC	Qy 2221 GCATGGTCCAACATCGACAACCAGCAAAGTGAATTATGGTGTAACGGTAACTGCCGACCTTC 2280 Db 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 Qy 2281 AAGGGTCAACCATCCAAACCGTTGGTGGCGTGCTGAGGGGTATTAACGCCGCCAGT 2340 Db 2281 AAGGGTCAACCATCCAAACCGTTGGTGGCGTGCTGAGGGTATTAACGCCGCCAGT 2340	OY 2341 CCGAACAAGACTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	Qy 2461 TTGGCGAAAGATCCACGTATTGCCGCCACGAAAACGCCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Qy 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGC 2580 Db 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCTACTGCGGTGATCAACGC 2580	OY 2581 GCCAGGGTCGTCAGACTGTCGATGAAGGCCCTGAAAGACGCGCAGACTAATTCGAGGTCG 2640	RESULT 3 US-09-265-617B-1 ; Sequence 1, Application US/09265617B ; Patent No. 6372283 ; GENERAL INFORMATION: ; APPLICANT: Attwood, Michael R. ; APPLICANT: Hurst, David N.	# APPLICANT: Jones, Philip S. # APPLICANT: Kay, Paul B. # APPLICANT: Kay, Paul B. # APPLICANT: Raynham, Tony M. # APPLICANT: Wilson, Francis X. # TITLE OF INVENTION: Antiviral Medicaments # CURRENT APPLICATION NUMBER: US/09/265,617B # CURRENT PILING DATE: 1999-03-10 # PRIOR PILING DATE: 1998-03-30 # PRIOR FILING DATE: 1998-03-30 # NUMBER OF SEQ ID NOS: 24 # SOFWRARE: Patentin Ver. 2.0
	CCCGACTGGAAAGCGGCCAGTGACCCAACGCAATTAATGTGCGCTAGCTCACTAG CCCGACTGGAAAGCGGCAGTGAGCGCAATTAATGTGAGTTAGCTCACTATAG CCCGACTGAAAACGGGGAGTGAGCGCAATTAATGTGAGTTAGCTCACTTAG GCACAATTCTCATGTTTGACGTTATCATCGACGCAATGCTCGCG	ATTCG ATTCG CGGTT	CTGGCAAATTATCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGAATTATCTGAAATTTGACAGCAATTAATCATTAATCGTCGGCTCGTATAATGTGTGGAATTATCTGAAATTTCACAGAAAAGCAAGC	GCACTTCACCAACAAGAACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAATTCCCACAGGTT 1680 1681 GCGGCAACTGGCGATGGCCTGACATTATCTTGGGCACACGACGACGTTTGGTGGCTAC 1740 1681 GCGGCAACTGGCGATGGCCTGACATTATCTTGGGCACACGACGACGACGTTTGGTGGCTAC 1740 1681 GCGGCAACTGGCGATGGCCTGACATTATCTTCTGGGCACACGACGACGACGGTTTGGTGGCTAC 1740	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTTT 1800 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTTT 1800 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAGAGCTGTTACCTGGATGCTTACCTGGTTACAACGGCAAGCTGATTGCTTACCTGGTTTACTGGTTACAACGGCAAGCTGATTGCTTACCTGGTTTACTGGTTACAACGGCAAAGCTGATTGCTTACCTGGTGTT 1860 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAAACCTGGCAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAAATCTGCTGCCGAAAACCTGGCAA 1920

	AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA	CGCAAACCGCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT 	CCCGATTGGAAAGCGGCCAGTGAGCGCAATTATGTGAGTTAGCTCACTCA	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCATGCTTCTGGCG 1260 	TCAGGCAGCCATCGGAAGCTGTGGTATGCCTGTGCAGGTCGTAAATCACTGCATAATTCG 	TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCCGACATCATAACGGTT 		ATTGTGAGGGGATAACAATTTCACACAGGAAACAGCCAGTCGGTTTAGGTGTTTTCACGA 		ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAACTCGGTAAGAAATTCGAGAAAGAT		GCGGCAACTGGCCGTGACCTTGATCTTCTGGGCACACCGCTTTGGTGGCTAC [GCTCBATCTGGCCTGTTGGCTGAATCACCCCGGACBAGCGTTCCAGGACAACTGTAT 	ccgtttacctgcgatgccgtacattacaacgcaagctgattacttac	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAACCTGGGAA 1920 	1921 GAGATCCCGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGTGAGGGGGGTTATGCGTTCAAG 2040
90 Ag	oy Pb	& 8 &	රු සි	à a	රු අ	ර් සි	දු දු	රු සි	& A	& A	창 옵	& 8 	රි සි	රි සි	& g	\$ 65 64	δ
LENGTH: 7475 TYPE: DNA ORGANISM: Artificial Sequence FRATURE: OTHER INFORMATION: Description of Artificial Sequence: Vector and	OS-09-265-61/B-1 Query Match Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	3GTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGB 	Qy 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAATACGATGTCGCAGAGTATGCCG 120 Db 61 GTCAATTCAGGGTGGTGATGTGAAACCAGTAACGTTATACGATGTCGCACAGTATGCCG 120	Oy 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGAACCAGGCCAGCCA		Oy 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCGGTCTGGCCCTGC 300 Db 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC 300	Qy 301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 Db 301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360	TGGTGGTGTCGATGGTACAACGAACGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC	Qy 421 TTCTCGCGCAACGCGTCAGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480 Db 421 TTCTCGCGCAACGCGTCAGTGAGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480	Qy 481 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540 Db 481 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540	Qy 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGTACGCGACTGGGGCGTGGAGCATC 600 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	CTCGG 	Qy 661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 7.20 Db 661 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 7.20	Qy 721 CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780 Db 721 CGGAACGGGACTGGACTGGATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780	Oy 781 ATGAGGGATCGTTCCCACTGCGATGCTGGCTTGCCAACGATCGGGCGCTGGGCGCAA 840 Db 781 ATGAGGGATCGTTCCCATGCTGATTGCTAATTGCTAATTGCTAATTGCTGATTGCTTGC	841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG	Db 841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960

```
'n
                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                            1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    423
                                                                                                                                                                                                                                                                                                     63
                                                                                                                                                                                                                                                                                                                                                      123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                783
                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                           ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
CTGCAAGAACCGTACTTCACCTGGCGGCTGTTGCTGCTGACGGGGGTTATGCGTTCAAG 2040
                                                                                                    2160
                                                                                                                            2220
                                                                                                                                                                            2280
                                                                                                                                                                                                    2280
                                                                                                                                                                                                                             2340
                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                              GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                      2640
                                                                                                                                                                                                                                                                                                                                                                                   2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2700
                                                                                                                                                                                                                                                                                                                                               GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                                                                                                      TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCCAGAAAGGTGAAATCATG 2520
                                                                                           2101 GGTCTGACCTTCCTGGTTGACTGATTAAAACAAACAACACATGAATGCAGACACCGATTAC
                                                                                                                                       2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                       1041 TATGABARCGGCAAGTACGACATTABAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                      TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCCTGG
                                                                                                                                                                                     2221 GCATGGTCCAACATCGACAGCAAGAGAATTATGGTGTAACGGTACTGCCGACCTTC
                        TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                         GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                        GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                        AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                            2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2581 GCCAGGGGTCGTCGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/09027169
| Patent No. 6420524
| GENERAL INPORMATION:
| APPLICANT: CRAIG, NANCY L
| TITLE OF INVENTION: GAIN OF FUNCTION MUTATIONS IN
| TITLE OF INVENTION: ATP-DEPENDENT TRANSPOSITION PROTEINS
| NUMBER OF SEQUENCES: 15
| CORRESPONDENCE ADDRESS:
| ADDRESSEE: Anne Brown (Alston & Bird, LLP)
| STREET: 3605 Glenwood Ave.
| STATE: NC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/027,169
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 4
US-09-027-169-3/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                         2041
                                                                        2101
                                                                                                                        2161
                                                                                                                                                                       2221
                                                                                                                                                                                                                                                                                                                       2401
                                                                                                                                                                                                                        2281
                                                                                                                                                                                                                                                                       2341
                                                                                                                                                                                                                                                                                                                                               2401
                                                                                                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                                                                       2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                     ò
                                       8 8
                                                                                           a
                                                                                                                      ò
                                                                                                                                         셤
                                                                                                                                                                    ઠે
                                                                                                                                                                                          유
                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                         음 중
                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1324 CAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGCAC 1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        844 GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG 842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1164 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1144 CTCGCGCAACGCGTCAGTGGTCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1504 CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGGAAAAAGTGGAAGCGGCGATGGCCGGGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1024 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1204 GIGGIGICGAIGGIAGAACGAAGCGCGICGAAGCCTGIAAAGCGGCGGCGCACAATCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1084 GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          543 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     603 GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   904 cercrecercecrescrescrasarararacrescrescarcaarrasces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 5926;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 3;
## NAME: Brown, Anne

**REGISTRATION NUMBER: 36,463

**REGISTRATION NUMBER: 5789-3

**TELECOMMUNICATION INFORMATION:

**TELEPHONE: 919 420 2205

**TELEPHONE: 919 420 2205

**TELEPHONE: 919 420 2205

**TELEPHONE: 919 420 2205

**TELEPHONE: 919 420 2205

**TELEPHONE: 919 420 2205

**TELEPHONE: 919 420 2205

**TELEPHONE: 5926 base pairs

**TENCE CHARACTERISTICS:

**TENCH: 5926 base pairs

**TOPOLOGY: circular

**TOPOLOGY: circular

**MOLECULE TYPE: other nucleic acid

**DECULE TYPE: other nucleic acid

**DECULE TYPE: other nucleic acid

**DECULE TYPE: other nucleic acid

**SECRIPTION: /desc = "PEM delta R.adj to 1"

**US-09-027-169-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
43.0%; Score 1417.6;
Best Local Similarity 98.6%; Pred. No. 0;
Matches 1455; Conservative 0; Mismatches
```

-

Wed

1765

1825

962

1345 1465 1585 1705 1285 1405 1525 1645 1045 1165 1225 362 662 842 902 422 482 542 602 722 782 925 122 985 182 242 302 62 CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC 1346 GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTTTTTGATGTCTCTGACCAGACA GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAAGTTCTGTCTCGGCG CGTCTGCGTCTGGCTGGCTGGCAAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG GACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGGT CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT CGGGAAAAAGGGGGAGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAAAA GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATCTT crescionales de la contra della contra della GTCGCATTGGGTCACCAGCAAATCGCGGTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATCTG CGTCTGCGTCTGGCTGGCTTGAATATCTCACTCGCAATCAAATTCAGCCGATAGCG

662

542

```
1646 GAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGGCGCAATG 1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTTCT 1382
                                                                                                                             GCTGTGGAAGCTGCCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                    GTGGTGTCGATGGTAGAACGAAGCGGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                   GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                           1526 CGTCTGCGTTGGCTGGCTGGCAAAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                               GAACGGGAAGGCGACTGCAGTGCCATGTTCCAACAAACCATGCAAATGCTGAAT
                                                            GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                        CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                         GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                             CGTCTGCGTCTGGCTGGCTTAAATATCTCACTCGCAATCAAATTCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  783 GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1826 CIGCIGGGGAAACCAGCGICGACCGCTIGCIGCIGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGGTAGTGGGATACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAAACCGCCTCTCCCCGCGGTTGGCGATTCATTAATGCAGCTGGCACGACAGGTTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1946 CAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2124 AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2064 IGAATTCTCAIGTTTGACAGCTTATCATGGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                  1106
                                                                                      1166
                                                                                                                                      1226
                                                                                                                                                                                         1286
                                                                                                                                                                                                                                             1346
                                                                                                                                                                                                                                                                                                1406
                                                                                                                                                                                                                                                                                                                                                   1466
                                                                                                                                                                                                                                                                                                                                                                                                                                723
                                                            303
                                                                                                               363
                                                                                                                                                                423
                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                         543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       843
                                                                                                                                                                                                                                                                                                                          603
                                                                                                                                                                                                                                                                                                                                                                             663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1323
                                                         ò
                                                                                                    ል 8
                                                                                                                                                              8 8
                                                                                                                                                                                                        ∂
                                                                                                                                                                                                                                    品 公 品 公 品 公 品
                                                                                                                                                                                                                                                                                                                                                                                                                        8 %
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/09640882
| Patent No. 6720142
| GENERAL INFORMATION: | BALTY G. |
| APPLICANT: Hall; Barry G. |
| TITLE OF INVENTION: RESISTANCE GENES AND USE THEREOF TO SCREEN FOR DRUG |
| TITLE OF INVENTION: REPSISTANCE GENES AND USE THEREOF TO SCREEN FOR DRUG |
| TITLE OF INVENTION: REPSISTANCE GENES AND USE THEREOF TO SCREEN FOR DRUG |
| TITLE OF INVENTION: RESISTANCE GENES AND USE THEREOF TO SCREEN FOR DRUG |
| FILE REPERENCE: 176/60851 |
| CURRENT APPLICATION NUMBER: US/09/640,882 |
| CURRENT APPLICATION NUMBER: 60/149,813 |
| PRIOR PILING DATE: 1999-08-19 |
| NUMBER OF SEQ ID NOS: 17 |
| SEQ ID NO 3 |
| LENGTH: 5201 |
                                                                                                                                                                                                    1322
                                                                                                                                                                                                                              2183
                                                                                                                                                                                                                                                   TCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTTCT 1382
                                                                                                                                                                                                                                                                         TCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTTCT 2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
1946 CARACGCCTCTCCCCGCGCGTTGGCCGATTATTATGCAGCTGGCACGACAGGTTTCC
                                                                                                            CAACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAG--CGCGAATTGATC
                                                                                                                                                                                                AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                                                                                                                                                                                              2124 AGGCAGCCATCGGAAGCTGTGGTAGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                                       CAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCC
                                                                                        1143 CGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAGGC
                                                                                                                                            1203 ACAATICICATGITIGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                               2064 TGAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCACCACGACGCTCTGGCGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAAITCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
41.3%; Score 1362; DB 4; Length 5201;
Best Local Similarity 99.1%; Pred. No. 0;
Matches 1380; Conservative 0; Mismatches 10; Indels 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: pACSE3
US-09-640-882-3
                                                                                                                                                                                                                                                                                                                     2244 GGCAATATTCT 2255
                                                                                                                                                                                                                                                                                                      1383 GGCAAATATTCT 1394
                                                                                                                                                                                                                                                                                                                                                                    RESULT 6
US-09-640-882-3
                                       1083
                                                                                                                   2006
                                                                                                                                                                                                1263
                                                                                                                                                                                                                                                                            2184
                                                                                                                                                                                                                                                   1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1046
            요
                                     ò
                                                         6 B
                                                                                                           8 8
                                                                                                                                                            ద
                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ያ ዓ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ર્જ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       중 음 .
```

1825

962

```
3342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                              2742
                                                                                                                                                                                                                                                                                                                                                                                                       2982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2802
                                                                                                                                                                                                                                                          2862
                                                                                                                                                                                                                                                                                                                                 2922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3103 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACGGTC 3162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3223 GGGGTCTGCGTCTGGCTGGCTGGCTTAAATATCTCACTCGCAATCAAATTCAGCCGATAG 3282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3583 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA 3642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                       2623 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 2682
                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                           2743 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                             TGGTGGTGTCGATGGTAGAACGAACGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3163 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGAACGGGAAGGCGACTGGAGTGCCATGTTCCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3523 GCCTGCTGGGCAAACCAGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                  CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                        241 AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                           ACGCCCCCCCCAAATTGTCCCCGCCGATTAAATCTCGCGCCCGATCAACTGGCTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2983 TICICGCGCAACGCGTCAGTGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3043 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCCCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3643 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGAGTTT
                                                                             301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                       TGGTGGTGTCGATGGTAGAAGGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                            2803
                                                                                                                                                                                                                                                                                                                                  2863
                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                           2923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
     61
                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                g
                                                                                                                                                ò
                                                                                                                                                                              ద
                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                     임
                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                  APPLICANT: UENO, EIICHI
APPLICANT: UENO, EIICHI
APPLICANT: OKADA, MASAHISI
APPLICANT: OKADA, MASAHISI
APPLICANT: OKADA, MASAHISI
APPLICANT: OKADA, MASAHISI
APPLICANT: OKADA, MASAHISI
ATITLE OF INVENTION: EXPRESSED FROM SAID FUSED DNA SEQUENCE AND METHOD FOR TITLE OF INVENTION: EXPRESSING SAID DNA SEQUENCE
ATITLE OF INVENTION: EXPRESSING SAID DNA SEQUENCE
ATITLE OF INVENTION: EXPRESSING SAID DNA SEQUENCE
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
                      2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                    2184 TCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
.
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 4557;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: E. COLI
STRAIN: BL21 (DE3)
FUBLICATION INFORMATION:
AUTHORS: NOBUTWIX FUJII ET AL,
TITLE: FUSED DNA SEQUENCE, FUSED FROTEIN EXPRESSED
TITLE: FROM SAID FUSED DNA SEQUENCE AND METHOD OF
TITLE: EXPRESSING SAID FUSED PROTEIN
RELEVANT RESIDUES IN SEQ ID NO: 5: FROM 1 TO 4557
                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: P.C. STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE CITY: ARLINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 36.5%; Score 1204; DB 4; Best Local Similarity 100.0%; Pred. No. 0; Matches 1204; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/778,717
FILING DATE: 12-DEC-1996
CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 352225/1995
FILING DATE: 28-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 2084-031-0
TELECOMMUNICATION INFORMATION:
TELECHONE: 703-413-3000
TELEFAX: 703-413-2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: circular MOLECULE TYPE: other nucleic acid ORIGINAL SOURCE:
                                                                                                                                                             S-08-778-717-5
Sequence 5, Application US/08778717
Patent No. 6602689
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO: 5: SEQUENCE CHARACTERISTICS: LENGTH: 4557 base pairs TYPE: nucleic acid STRANDEDNESS: double
                                                        GGCAAATATTCT 1394
                                                                                           2244 GGCAAATATTCT 2255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-778-717-5
                                                        1383 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                   요
                                                       ò
```

540

602 9 662 720 722 780 782 840

윱 ò 셤

```
963 GCCTGCTGGGGCAAACCAGCGTGGACGGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 302
                                                                                                                                                       CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 600
                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGTCTGCGTCTGGCTGGCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 903 ACGATACCGAAGACAGCTCATGTTATATCCGCCGTTAACCACCATCAACAGGATTTTC
                                                                                                                                 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                         TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                         CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGTCTGCGTCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       843 TGCGCGCCATTACCGAGTCCGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1083 CGCAAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 9
US-08-487-283A-18/C
; Sequence 18, Application US/08487283A
; Patent No. 6355245
; GENERAL INFORMATION:
; APPLICANT: Evans, Mark J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCAC 1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                     301
                                                                                            303
                                                                                                                                 361
                                                                                                                                                                      363
                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                  423
                                                                                                                                                                                                                                                                                                                             483
                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                           543
                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             723
                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1203
                                               ò
                                                                                      셤
                                                                                                                             ò
                                                                                                                                                           g
                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGGGAAAAAGTGGAAGGGGGGATGGGGGGGGGGGGTAACATTCCCAACCGCGTGGCAC 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                            Sequence 2, Application US/08148675A
Patent No. 5505121
GENERAL INFORMATION:
APPLICANT: SKETTA, ATNE; SCHMIGL, Thomas
ITILE OF INVENTION: STREPTIBES WITH BINDING ACTIVITY FOR TITLE OF INVENTION: STREPTAVIDIN
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSE: Felfe & Lynch
STREET: 805 Third Avenue
CITX: New York City
STATE: New York City
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1; Length 3832;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    inch, 360 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
36.4%; Score 1200.8;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 1202; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 360 }
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDSFEECT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/148,675A
FILING DATE: 3-NOV-1993
CLASSIFICATION A35
PRICA APPLICATION DATA:
APPLICATION NUMBER: DE 42 37 113.9
FILING DATE: 03-NOV-1992
ATTORNEY/AGENT INFORMATION:
FILING DATE: 03-NOV-1992
ATTORNEY/AGENT INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
TELEFAX: (212) 688-9200
                                                           GCAC 1204
                                                                                                  GCAC 3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TOPOLOGY:
US-08-148-675A-2
                                                                                                                                                           RESULT 8
US-08-148-675A-2
                      3703
                                                             1201
                                                                                                  3763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
```

윱

ઠે g ò

ò 유 ઠે 유

8.

900 902

4451

4391

4331

540

4271

900

4211

4151

9

4091

780

720

4031

840

3971

us-09-765-555b-18.rni

```
3790 AGGGCAATCAGCCGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCCAATA 3731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3850 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 3791
                                                                                                                                                               4390 TICTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                           4330 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTGACCAGA
                                                                                                                                                                                                                                                                                                                          4270 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGTACGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4030 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3730 CGCAAACCGCCTCTCCCCGCGCGTTGGCAGTTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Acececcercecaaarrercecescearraaarcreececearcaacreeceaece
                                                                                                                                                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4090 CGGAACGGGAAGGCGACTGGAGTGCCCATGTTCCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3970 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGCACAATC
                                                                                                     4450 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                        TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                       CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                     TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4150 CGCGTCTGCGTCTGGCTGGCATAAATATCTCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
    RESULT 10
PCT-US96-05611A-21/C
; Sequence 21, Application PC/TUS9605611A
; GENERAL INFORMATION:
APPLICANT: Mueller, John P.
APPLICANT: Merardo. Michael J.
APPLICANT: McFarland, Henry F.
APPLICANT: Matis, Louis A.
APPLICANT: Malis, Louis A.
APPLICANT: Mueller, Eileen Elliott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3610 GCAC 3607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201 GCAC 1204
                          4510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                              421
                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      196
                                                                361
                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                               qq
                                                                                                                                        8
                                                                                                                                                                               g
                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4810 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4630 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACAACTGGCGGGCAAA CAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
APPLICANT: Matis, Louis A.
APPLICANT: Mueller, Eileen Elliott
APPLICANT: Nye, Steven H.
APPLICANT: Rollins, Scott
APPLICANT: Rother, Russell P.
APPLICANT: Springhorn, Jeremy P.
APPLICANT: Springhorn, Jeremy P.
APPLICANT: Thomas, Thomas C.
APPLICANT: Thomas, Thomas C.
APPLICANT: Wilkins, James A.
TITLE OF INVENTION: OF INFLAMMATORY DISEASES
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36.3%; Score 1199.2; DB 3; Length 5248; 99.8%; Pred. No. 0; ative 0; Mismatches 3; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: Other nucleic acid
DESCRIPTION: PET Trc SO5/NI
DESCRIPTION: prokaryotic expression vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,283A
FILING DATE: June 7, 1995
FILING DATE: June 7, 1995
FILING DATE: US 08/236,208
FILING DATE: US 08/236,208
FILING DATE: 02-MAX-1994
APPLICATION NUMBER: US 08/236,208
FELSTATORNEY AGENT INFORMATION:
NAME: Seth A. Fidel.
REGISTRATION NUMBER: ALX-152.1 CIP
FELECOMMUNICATION INFORMATION:
TELEPHONE: (203)776-1790
TELEPHONE: (203)776-1790
TELEPHONE: (203)772-3655
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 5248 base pairs
TYPE: Nucleic Acid
STRANDEDNONESS: Double
                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.4Mb storage
COMPUTER: Macintoob Cetris 610
OPERATING SYSTEM: System 7
SOPTWARE: WordPerfect 3.0
                                                                                                                                                                                                                                                            E: Seth A. Fidel
25 Science Park (Alexion)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 99.8 Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Circular
                                                                                                                                                                                                                                                                                                                          Connecticut
: USA
                                                                                                                                                                                                                                                            ADDRESSEE: Seth
STREET: 25 Scier
CITY: New Haven
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
US-08-487-283A-18
                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

1020

1080

3911

900

960

1200

3611

```
4510 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 4451
                                                                                                4450 regregificaregracaacgaaccecerccaaccricraaaccececececararic 4391
                                                                                                                                                               3850 GCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA 3791
                                                                                                                                       TTCTCGCGCGAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3790 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACACCCTGGCGCCCAATA 3731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCATTAG 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3670 ĆĊĊĠAĊTGĠAAAGĊĠĠĠĠĠĠĠĠĠĠĠĠĠĠĠĠĠĠŦŢŖAŢĠĸŖĠĠŢĸŖĠĊŢĊŔŢŢŔĠ 3611
                                                                                                                                                                                                                                                                                                                                        CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                           TGGTCGCATTGGGTCACCAGCAAATCGCGCGTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3970 TGCGCGCCATTACCGAGTCCGGGCTTGCGGGGATATCTCGGTAGTGGGGATACG
                                                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAACTC
                                                                                                                                                                                                                           TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                  regrescarraderedadaaresecretradesececarraagresecre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGCTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901 ACGATACCGAAGACAGCTCATGTTATATCCCGCGGTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3730 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGACGTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 35, Application US/10263103
Patent No. 6821723
GENERAL INFORMATION:
APPLICANT: AVENTIS PASTEUR
APPLICANT: Chevalier, Michel
APPLICANT: Krell, Tino
APPLICANT: Krell, Tino
APPLICANT: Krell, Tino
APPLICANT: Scodoyer, Regis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201 GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
US-10-263-103-35/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4090
                                                                                                                                                                                   4390
                                                                                                                                                                                                                                                                  4330
                                                                                                                                                                                                                                                                                                                                                 4270
                                                                                                                                                                                                                                                                                                                                                                                                                                    4210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                            421
                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Grercitarcagaccerricecedergrearceageceagecacerricegeaaaa 4631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGGAAAAAGTGGAAGCGGCGATGGCGGGGGCGTGAATTACATTCCCAACCGCGTGGCCAC 4571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 ACGCGCCGTCGCAAATTGTCGCGGCGATAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1810 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 GIGICITATCAGACCGITTCCCGCGTGAACCAGGCCAGCCACGITTCTGGGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36.3%; Score 1199.2; DB 5; Length 5248; llarity 99.8%; Pred. No. 0; Conservative 0; Mismatches 3; Indels 0;
APPLICANT: Nye, Steven H.
APPLICANT: Pelfrey, Clara M.
APPLICANT: Squinto, Stephen P.
APPLICANT: Squinto, Stephen P.
APPLICANT: Mikins, James A.
TITLE OF INVENTION: Modified Myelin Protein Molecules NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS:
ADDRESSE: AMAUTICE M. Klee
STREET: 1951 Burr Street
CITY: Pairfield
STATE: Connecticut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                prokaryotic expression vector
                                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM: System 7

OPERATING SYSTEM: System 7

CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
TLING DATE: 02-MAY-1995
CLASSIFICATION: DATA:
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/431,648
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/482,114
FILING DATE: June 7, 1995
APPLICATION NUMBER: 08/482,114
FILING DATE: June 7, 1995
APPLICATION NUMBER: 08/482,114
FILING DATE: June 7, 1995
APPLICATION NUMBER: 08/482,114
                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 0.8 Mb storage
COMPUTER: Macintosh Centris 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: Other nucleic acid DESCRIPTION: per rc SOS/NI DESCRIPTION: prokarvor:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Klee, Maurice M.
REGISTRATION NUMBER: 30,399
REFERENCE/DOCKET NUMBER: AL)
TELECOMMUNICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: (203) 255 1400
TELEPAX: (203) 254 1101
INFORMATION FOR SEQ ID NO: 21;
SEQUENCE CHARACTERISTICS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 5248 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PCT-US96-05611A-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Simi:
Matches 1201; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1630
```

용

ò 셤 ò 요

ઠે ద ò 용

```
..
0
                                                                                                                                                                                                                               3603
                                                                                                                                                                                                                                                                      AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAGAAAACCACCCTGGCGCCCAATA 1080
                                                                                                                                                                                                                                                                                              3483
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1182 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGGATACG 3723
                                                                                                                                                                                         GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCGACTGGAAAGCGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTAG 1200
                                                                                                                                                                                                              GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                        CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                               3542 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                         ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/08929967

Sequence 1, Application US/08929967

Batent No. 5891637

TITLE OF INVENTION:

APPLICANT: Ruppert, Siegfried J.W.

TITLE OF INVENTION: Construction of Full-Length cDNA Libraries

NUMBER OF SEQUENCES: 16

CORRESPONDENCE ADDRESS:

ADDRESSE: Genentech, Inc.

STREET: 1 DNA WAY

CITY: South San Francisco

STATE: California

COUNTRY: USA

ZIP: 94080

COMPUTER: READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatin (Genentech)

CURRENT APPLICATION NUMBER: US/08/929,967

FILING DATE:

PRILICATION NUMBER: US/08/929,967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 5443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              36.3%; Score 1199.2;
99.8%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P1035R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Ginger R.
REGISTRATION NUMBER: 33,055
REFERENCE/DOCKET NUMBER: P103
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-3216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 5443 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 36.3
Best Local Similarity 99.8
Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3422 GCAC 3419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                 3602
                                                                                                                                                3722
                                                                                                                                                                                                                               3662
                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201
                                                                                                         901
                                                                                                                                                                                           961
                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                ò
                                                                                                                                     g
                                                                                                                                                                                       ò
                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3962 CGCGTCTGCGTCTGGCTGGCTGGCTGGCAAAAAATTCTCACTCGCAATCAAATTCAGCCGATAG 3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3842 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 3783
                                                                                                                                                                                                                                                                                                                                                                                                 4622 CGGACACCATCGAATGGCGCAAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 4563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4442 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 4383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4262 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 4203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1142 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 4083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4322 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1202 TTCTCGCGCAACGCGTCAGTGGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                           1 CCGACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                            DB 4; Length 5312;
                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                     3,
                                                                                                                                                                                                                                                                                          Query Match 36.3%; Score 1199.2; Best Local Similarity 99.8%; Pred. No. 0; Matches 1201; Conservative 0; Mismatches
TITLE OF INVENTION: gp41 antigen
FILE REFERENCE: 01-1692-A
CURRENT APPLICATION NUMBER: US/10/263,103
CURRENT FILING DATE: 2002-10-02
NUMBER OF SEQ ID NOS: 35
SOFTWARE: Patentin version 3.1
LENGTH: 5312
                                                                                                                                                                 TYPE: DNA
ORGANISM: Artificial
FEATURE:
OTHER INFORMATION: plasmid pET-cer
US-10-263-103-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
```

g ઠે 유 ઠે 셤 ઠે 요 ò g

g

ò

셤

ઠે

g ઠે 셤 δ

ઠે

ద

ò ద ठे 쉽 ઠે a ò

	15.09-705-705-705-705-705-705-705-705-705-705
CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	

CURRENT APPLICATION NUMBER: US/09/736,457 CURRENT FILING DATE: 2000-12-13 NUMBER OF SEQ ID NOS: 1864 SOFTWARE: FastSEQ for Windows Version 3.0 LENGTH: 5502 TYPE: DNA TYPE: DNA COGNAISM: Homo sapien US-09-736-457-785	Query Match 36.3%; Score 1199.2; DB 4; Length 5502; Best Local Similarity 99.8%; Pred. No. 0; Matches 1201; Conservative 0; Mismatches 3; Indels 0; Gaps 0;	9y 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGGGTGTGGCGCCCGGAAGAGA 60	0y 61 GTCAATTCAGGGTGGTGAAATGTGAAACCAGTAAACGTTATACGATGTCGCAGGAGTATGCCG 120 	OY 121 GIGICICITATCAGACGITTCCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA 180	0y 181 CGCGGGAAAAGTGGAAGCGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	Qy 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC 300 L	QY 301 ACGCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTCGAGCG 360 L	Qy 361 TGGTGGTGTCGATGGTAGAACGAGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC 420	Qy 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480 Db 4257 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 4198	Qy 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540	Qy 541 CACCCATCAACAGTATTATTTTCCCCATGAACAGGACAGGACAGGGGGGGG	
Db 4257 TTCTCGGGGAACGCGTCAGTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 4198 Qy 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCTTGATGTCTCTGACCAGA 540	Qy 601 TGGTCGCAFTGGGTCACCAGCAAATCGCGCTGTTAGCGGCCCCATTAAGTTCTGTCTCGG 660	QY 661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720	Oy 721 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780	OY 781 ATGAGGGATCGTTCCCACTGCGATGGTGGCGACGACGATCAGATGGCGCTGGGGGGAA 840	Oy 841 TGCGCGCATTACCGAGTCCGGGCTGCGGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 Db 3837 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 3778	OY 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	Qy 961 GCCTGGGGGAAACCAGGTGGACCGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA 1020 Db 3717 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAGACTCTCTCAGGGCCAGGCGGTGA 3658	OY 1021 AGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAACCACCCCTGGCGCCCAATA 1080	OY 1081 CGCAAACCGCCTCTCCCCGGCGTTGGCCGATTCATTAATGCAGCTGGCACGGCTGTT 1140	Qy 1141 CCGACTGGAAAGCGGGCAGTGAGCGCAATTAATGTGAGTTAGCTCACTCA	Qy 1201 GCAC 1204 Db 3477 GCAC 3474	RESULT 14 1909-736-457-785/c 1909-736-457-785/c 1909-736-457-785/c 1909-736-457-785/c 1909-736-457-785/c 1909-736-457-785/c 1909-736-457-785/c 1009-736-457-785/c 1009-736-457-785/c 1009-736-48-79-79-79-20-20-20-20-20-20-20-20-20-20-20-20-20-

4258

420

4198

4138

4078

4018

3958

3898

1080

9 9 9 9

8 8 8

ઠે

윰

8 &

8 8 8 8 8

8 8

요

```
ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                TGGTGGTGTCGATGGTAGAACGAAGGCGTCGAAGCCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                               TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                          CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGCGTGGGGCGTGGGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3897 AIGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1837 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3717 GCCTGCTGGGGCAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3657 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3597 CGCAAACCGCCTCTCCCCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCTGCTGGGGCAAACCAGCGGGGGCCTGCTGCAACTCTCTCAGGGCCAAGGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rch completed: August 3, 2005, 02:32:35 time : 356.4 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCAC 3474
                    4437
                                                                                                                                                                              4317
                                                                                                                                                                                                                                                                                                                                       4197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4077
                                                            301
                                                                                                                                                                                                                                                            4257
                                                                                                                                                                                                                                                                                                                                                                                                                  4137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                        361
                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3477
                                                 8
                                                                                       g
                                                                                                                                  ò
                                                                                                                                                               a
                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                면
당
6
                                                                                                                                                                                                                                                                                                                                                              रुं है दे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                     3718
                                                                                                                                                                            1080
                                                                                                                                                                                                                 3598
                                                                                                                                                                                                                                                        1140
                                                                                                                                                                                                                                                                                                3538
                                                                                                                                                                                                                                                                                                                         4618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 AACAACTGGCGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09
                                 3777 ACGATACCGAAGACACCTCATGTTATATCCCGCGTTAACCACCATCAAACAGGATTTC
                                                                                                             AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                          3657 AGGCCATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                       3597 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
        ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                              CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTAATGCAGCTGGCACGACAGGTTT
                                                                                       GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURDAY, INCOMENTATION;
JAPPLICANT: Bangur, Chaitanya S.
JAPPLICANT: Bangur, Chaitanya S.
JAPPLICANT: Langer, Michael A.
JAPPLICANT: Longer, Michael A.
JAPPLICANT: Carter, Marc
JAPPLICANT: Carter, Darrick
JAPPLICANT: Retter, Marc
JAPPLICANT: Retter, Marc
JAPPLICANT: Mannion, Jane
JAPPLICANT: Mannion, Jane
JAPPLICANT: MANNION: COMPOSITIONS OF LUNG CANCER
JAPPLICANT: MANNION: COMPOSITIONS OF LUNG CANCER
JAPPLICANT: MANNION: DIAGNOSIS OF LUNG CANCER
JETTLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
JETTLE OF INVENTION: 12001-07-11
JUNDBER OF SEQ ID NOS: 1668
JEOUTHWARE: FASTESC for Windows Version 3.0
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN OF 785
JETTLE OF TOWN 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 4; Length 5502;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 1199.2;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 785, Application US/09614124B Patent No. 6630574 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 99.8%;
Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRGANISM: Homo sapien
US-09-614-124B-785
                                                                                                                                                                                                                                                                                                                                                                                                     GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                             GCAC 3474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
US-09-614-124B-785/c
                                                                                                                                                                 1021
                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                3537
                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                                                                           3477
        901
                                                                                    961
                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4497
```

Н

Scoring table:

Total number Minimum DB Maximum DB

Database

Searched:

Title: Perfect score:

Sequence:

OM nucleic

Run on:

```
Sequence 40, Appl
Sequence 30, Appl
Sequence 25, Appl
Sequence 20, Appl
Sequence 61, Appl
Sequence 71, Appl
Sequence 15, Appl
Sequence 15, Appl
Sequence 194, App
Sequence 194, App
Sequence 194, App
Sequence 194, App
Sequence 194, App
Sequence 194, App
Sequence 194, App
Sequence 194, App
Sequence 194, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 7, Applisequence 137, Applesquence 24, Applisequence 2, Applisequence 3, Applisequence 4, Applisequence 3, Applisequence 52, Applisequence 1, Applisequence 2, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applisequence 32, Applis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1, A
Sequence 2, A
Sequence 19,
                                                                                                                                                                                                                                                                                                                                                                                    Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 10; Length 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Parial sequence of pMal-Ap3 and zinc finger / OTHER INFORMATION: protein ZFPAp3 US-09-765-555-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 13.1.

Sequence 13.1.

Sequence 13.1.

Seneral No. 10220300373551

GENERAL INFORMATION:

APPLICANT: The Scrippe Research Institute

TITLE OF INVENTION: Methods and compositions to modulate

TITLE OF INVENTION: expression in plants

FILE REFERENCE: 27801-2001440

CURRENT APPLICATION NUMBER: US/09/765,555

CURRENT APPLICATION NUMBER: US 09/620,897

PRIOR PILING DATE: 2000-01-21

PRIOR PLILING DATE: 2000-01-21

PRIOR FILING DATE: 2000-01-21

NUMBER OF SEQ ID NOS: 75

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 18

LENGTH: 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                        US-110-263-153-40
US-110-263-153-40
US-110-263-153-35
US-110-263-153-25
US-110-263-153-25
US-110-263-153-16
US-110-263-153-15
US-110-263-153-10
US-110-263-153-10
US-110-263-153-10
US-110-263-153-10
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
US-110-801-948-194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-495-491-2
US-10-495-491-1
US-10-495-491-3
US-10-495-491-4
US-0-997-763-30
US-10-671-995A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 100.0%; Score 3300; Best Local Similarity 100.0%; Pred. No. 0; Matches 3300; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
ORGANISM: Artificial Sequence
US-09-765-555-18
                    2636.8
2636.8
2636.8
2605.4
1609.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1462.4
1462.4
1462.4
1462.4
1417.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1238.4
1238.4
1238.4
1237.2
1237.2
1237.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE
  Appl
Appli
Appli
Appli
                                                                                                                                                            2, 2005, 10:29:49 ; Search time 1309.2 Seconds (without alignments) 16314.373 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 17, P
Sequence 14, P
Sequence 15, P
Sequence 16, P
Sequence 1, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 18,
                                                                                                                                                                                                                                                                                                              1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Land Islaed Applications National Management of Control Editions (1707) 2002 6/ptodata/1/pubpna/USO7 PUBCOMB.seq:*

/ cgn2 6/ptodata/1/pubpna/USO6 PUBGOMB.seq:*

/ cgn2 6/ptodata/1/pubpna/USO7 NEW PUB.seq:*

/ cgn2 6/ptodata/1/pubpna/DSO7 NEW PUB.seq:*

/ cgn2 6/ptodata/1/pubpna/USO8 PUBCOMB.seq:*

/ cgn2 6/ptodata/1/pubpna/USO8 PUBCOMB.seq:*

/ cgn2 6/ptodata/1/pubpna/USO8 PUBCOMB.seq:*

/ cgn2 6/ptodata/1/pubpna/USO8 PUBCOMB.seq:*

/ cgn2 6/ptodata/1/pubpna/USO9 PUBCOMB.seq:*

/ cgn2 6/ptodata/1/pubpna/USO9 NEW PUB.seq:*

/ cgn2 6/ptodata/1/pubpna/USOB PUBCOMB.seq:*

                     GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-765-555-18

US-09-765-555-14

US-09-765-555-14

US-09-765-555-16

US-09-765-555-16

US-09-765-555-16

US-10-257-3484-1

US-10-149-472-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                  7287783 segs, 3236178273 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Published_Applications_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Maximum Match 100%
Listing first 45 summaries
                                                                                                                 nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                              IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                              US-09-765-555B-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                 August
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0
98.0
97.8
97.8
97.5
82.0
```

GENERAL INFORMA

ö

Gaps

ö

3300 3232.8 3226.4 3226.4 3216.8 2705.8

Score

Result

114 120 120 126 132	1321 1GTCGCTCAGGGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380 1321 1GTCGCTCAAGGCGCTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1321 1GTCGCTCAAGGCGCTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCACGGCTCGTATAATGTGTGGA 1440 1441 ATTGTGAGCGGATAACAATTCACACAGGAAACGCCAGTCCGTTTAGGTGTTTTTCACGA 1500 1441 ATTGTGAGCGGATAACAATTCACACAGGAAACGCCAGTCCGTTTAGGTGTTTTTCACCA 1500	-	168 168 174 174	1741 GCTCAAITCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAAGACAAGCTGTAT 1800 1741 GCTCAAITCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAAGACAAGCTGTAT 1800 1801 CCGTTTACCTGGAGAGCTGAAGCGTAAAGCGTTACAGGACAAGCTGTAT 1800 1801 CCGTTTACCTGGAATGCCGTACGTTACAAGCGCAAGCTGATTGCTTAACCGATCGCTGTT 1860 1801 CCGTTTACCTGGGAATGCCGTACGTTACAAGCGCAAGCTGATTGCTTAACCTGAGATGTTT 1860	1861 GAAGCCTTATCGCTGATTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040	2101 GGTCTGACCTTCCTGGTTGACTTAAAACAAACAATGAATG
8 8 8 8 8 8 8	3 8 8 8 8	8 8 8	8 6 8 6	8 8 8	8 6 8 6	8 6 6 6	\$ B \$
1 CGGACACCATCGAATGGTGAAAACCTTTCGCGGTATGGCATGATAGCGCCGGAAGAGA 60	241 AACAACTGGCGGGCAAACAGTGGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 241	21 TTCTCGCGCAACGCGTCAGTGGGTGATCATTAACTATCCGCTGGATGCCAGGTGCAGTGCAGTGCAGTGCAGTGCAGTGCAGTGCAGTGCAGTGCAGTGCAGTGAGTG		ATAG ATAG CTGA	3CAA 84 3CAA 84 1ACG 90	1111 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	108

m

666666

g

8

ò

ద

ઠે

g

8 8 8

ઠે

셤

ያ ያ

8

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CCGACACCATGGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGAAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGGGBAAAAAGTGGAAAGCGGCGATGGCCGAAGTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGCCCCCCCCCAAATTGTCGCCGCGATTAAATCTCGCCCCGATCAACTGGCTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         regregregregrada a consequence a servicio de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequence de consequ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:

, OTHER INFORMATION: Partial sequence of pMal-m4 and zinc finger

, OTHER INFORMATION: protein ZFPm4
US-09-765-555-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  42; Indels
                                                                                                                                                                                                      modulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 10;
                                                                                                                                                                    APPLICANT: The Scripps Research Institute
TITLE OF INVENTION: Methods and compositions to mod
TITLE OF INVENTION: expression in plants
TITLE OF INVENTION: expression in plants
FILE REFERENCE: 27801-20014.0
CURRENT APPLICATION NUMBER: US/09/765,555
CURRENT FILING DATE: 2002-05-24
PRIOR PEPLICATION NUMBER: US 60/177,468
PRIOR PILING DATE: 2000-01-21
PRIOR PILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 75
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 17
LENGTH: 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98.0%; Score 3232.8; ilarity 98.7%; Pred. No. 0; Conservative 0; Mismatches
                                            RESULT 2
US-09-765-555-17
Sequence 17, Application US/09765555
Publication No. US20030037355A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 3258; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ર્જ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3300
                                                                                                                                                                                                                                                   2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3060
                                                                                                                                                    2340
                                                                                                                                                                                                      2340
                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                                          2460
                                                                                                                                                                                                                                                                                                                                                                                                          2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGATCCTCTTCCTCTGTGGCCCAGGCGGCCCTCGAGCCCGGGGGAGAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGGAATGTGGTAAGTCCTTCAGCCAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTCTTTCAGCCAGTCCAGCAACCTGGTGCGCCACCAACGTACTCACACCGGGGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCGCCCCACCTGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCEGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3241 ACCGGTAAAAAAACTAGTGGCCAGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT
TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                           AAGGGTCAACCATCCAAACCGTTGGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT
                                                                                                                                                                                                                                                                                CCGAACAAAGGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGGGATGTCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACAACAACAATAACAATAACAACAACATCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCTATGCTTGTCCGGAATGTGGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCGCCCCACCTGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC
                                                                          2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                    AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                      GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                       2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCAGCGGTCGTCGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                   2281
                                                                                                                                                                                                                                                                                                     2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3241
                                                                                                                                                    2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3121
                                                                                                                                                                                                                                                        2341
                                                                                                                                                                                                                                                                                                                                                       2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2641
```

윱

8 & 8

ઠે

8 8

유

ò

8 & 8

ò

셤

ઠે

141 GCCCCAAATOGCCAAACATTATATATATATATATCTTCTGGCCAACCCACCACCCCTTTGGTGCCTTT 180 171 GCTCAATCTGCCTTTTTCTCTCTTTAACATTATATATATA
品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格品格
61 TOTTOCATTOCATTOCATOR THE PROPERTY THE PROPETTY THE PROPERTY THE PROPERTY THE PROPETTY THE PROP

Ŋ

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                  300
                                                                                                         300
                                                                                                                                  360
                                                                                                                                                       360
                                                                                                                                                                                 420
                                                                                                                                                                                                        420
                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                     99
                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGGAAAAAGTGGBAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                  AACAACTGCCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                             ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                            TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                           TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGBACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Argadedearcerreceardedargerecratecaacearcardecerrececedaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCAAACCGCCTCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                         AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                 ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                            TCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                               TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGGGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                              TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGTCTGCGTCTGGCTGGCTTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                          241
                                                                                                                                                         301
                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                     181
                                                           181
                                                                                  241
                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                  301
                                                                                                                                                                                 361
                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 8
                                                    셤
                                                                            ò
                                                                                                      ద
                                                                                                                             ઠે
                                                                                                                                                  셤
                                                                                                                                                                              ò
                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                       3240
                                                            2940
                                                                                                                                                                                                        3120
                                                                                                                                                                                                                                                       3180
                                                                                                                                                                                                                                                                                                                               3240
                                                                                                                                                                                                                                                                                                                                                      3300
                                                                                                                                                                                                                                                                                                                                                                              3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
            ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                      CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGGAAATCTTTTAGC
                                                                                                                                                                                                                                                      CAGCGCGCCCACCAGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                     CCAGAATGTGGCAAGTCTTTCTCAAGTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC
                                                                                                                                                                                                                                                                                                                   3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC
                                                                                                                                                                                                                                                                                                                                                    CGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                        CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                         AAGTCTTTCAGCCAGTCCAGCAACCTGGTGCGCCACCAACGTACTCACACCGGGGAGAG
                                                                                                                                                       CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACAC
                                                                                                                                                                     CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                   CTGGTGCGCCATCAACGCACTCATACTGGCGAGAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Partial sequence of pMal-ml and zinc finger; OTHER INFORMATION: protein ZFPml
US-09-765-555-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            46; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        modulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 14, Application US/09765555
Fublication No. US20030037355A1
GENERAL INFORMATION:
TITLE OF INVENTION: Methods and compositions to TITLE OF INVENTION: expression in plants
FILE REPERBENCE: 27801-20014.40
CURRENT APPLICATION UNMBRR: US/09/765,555
CURRENT FILING DATE: 2002-05-24
PRIOR APPLICATION NUMBER: US 09/620,897
PRIOR APPLICATION NUMBER: US 09/620,897
PRIOR APPLICATION NUMBER: US 00/620,897
PRIOR APPLICATION NUMBER: US 00/620,897
NUMBER OF SEQ ID NOS: 75
SOFTWARE: FARESEQ for Windows Version 4.0
SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97.8%; Score 3226.4;
98.6%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 98.6
Matches 3254; Conservative
                                   2821
                                                                                                         2941
                                                                                                                                2941
                                                                                                                                                                                                                              3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Н
                                                           2881
                                                                                                                                                       3001
                                                                                                                                                                                                       3061
                                                                                                                                                                                                                                                       3121
                                                                                                                                                                                                                                                                              3121
                                                                                                                                                                                                                                                                                                       3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                 2881
                                                                                                                                                                               3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                ∂
                                                                                                                                                                            g
                                                                                                                                                                                                      ð
                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ठे
                           g
                                                   ઠે
                                                                        යු
                                                                                                      ઠે
                                                                                                                        엄
                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                   ઠે
```

g

2341 CCGAACAAAGAGTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2341	Db 2401 GAAGGGGTTAATAAAGACAAACGGTGGGTGCGGTGGAGGTCTTACGAGGAAGAG 2460 QY 2461 TTGGCGAAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAAGATCAAGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	2521 CCGAACATCCCG	OY 2581 GCCAGGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	QY 2641 AACAACAACAACAATAACAATAACAACTCGGGATCGAGGGAAGGATTCAGAATTC 2700	Qy 2701 GGATCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT 2760	QY 2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCAC 2820	QY 2821 ACGGGTGAAAACCGTATAAATGCCCACAGTGCGGCAATCTTTTAGCCAGTCAGCAAC 2	QY 2881 CTGGTGCGCCATCAACGCACATCATACTCGCGAQAAGCCATACAAATGTCCAGAATGTGGG 2	OY 2941 AAGTCTTTCAGCCAGTCCAGCAACCTGGTGCGCCACCAACGTACTCACCAGGGGGAAAG 3	9y 3001 CCCTATGCTGGGAATGTGGTAAGTCCTTCAGGACGTGGCTCCTTGGTTAGACAC 3	OY 3061 CAGCGTACCCACACGGGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120	Qy 3121 CAGCGCCCCACCTGGAACGCCATCAACGCACTACTGGCGAGAAGCCATACTAGT 31 Db 1121 CAGGCCGCCACCTGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 31	9y 3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC 3240	OY 3241 ACCGGTAAAAAACTAGTGGCCAGGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300	RESULT 4 US-09-765-555-15 ; Sequence 15, Application US/09765555 ; Publication No. US20030037355A1 ; GENERAL INFORMATION:
1201 GCACAATTCTCATGTTTGACAGCTTATCATGGACGGTGCACCAATGCTTCTGGGG 1260 1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGATCATGATTCG 1320	1261 TCAGGCACCATCGGAAGCTGTGTATGCTGTGCTGTGTTGTTGTTTTTTTT	TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGTGCAATAATGTTTTTTGCGCCGACATCATAGTGTCTGGCAATTAATGTAATGT	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACA 1500 1441 ATTGTGAGCGGATAACAATTCACACAGGAACAGCCAGTCCGTTTAGGTGTTTTTTCA 1500	GCACTTCACCAACAACAACACATAGATTATGAAAACTGAAGATAAACTGGTAATCTGG	AAGAT AAGAT	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGGCGTTTGGTGGCTAC 1740			GGAA	CAAC 	TCAAG TCAAG	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100 	ATTAC	36TGG	2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280

6 B 6 B 6 B 6

8 & 8

6 6 6 6 6 6

0y 2941 AAGTCTTTCAGCCAGCAACCTGGGGGCACCAACGTACTCACACCGGGGAGAAG 0b 2941 AAGTCTTTCTCGGTTTTGACATCTCGGCACCAACGTACTCACCCGGGGAGAAG 20 2941 AAGTCTTTCTCTCGGTTTTGACATCTCTCGGCACCACGTACTCACCCGGGGAGAAG 0y 3001 CCCTATGCTTGTCGGAATGTGGTAAGTCCTTCAGCACGTGGCTCCTTGGTTAGACAC 0p 3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCACGCGAGCGA	/09765555 55A1 earch Institute as and compositions to moch 4.40 10.50 10	vative 0 TCGAATGGTGC TCGAATGGTGAATGGTGAATGGTGAATGGTGAATGGTGAATGGTGAATGGTGAATGGTGAATGGTGAATGGTGAATGGTGG
1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 1961 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGCCCAAAAACCTGGGAA 1920 1921 GAGGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGCCCGC	ACCTTC ACCTTC ACCTTC GGCAGT GGTCTG GGTCTG GGTCTG GGTCTG GAAGAG GA	

13.00
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
211 MACMACTGGCGGGCMANTTGTGGGGGTTTGCCNCTCCACTCCACTCTGGCCGGGGGGGGGG

ð ద 셤 ò 요 ò g

à

셤

ઠે

ò

셤

ઠે 용 ò a

ద ò

ò g à 엄 ŝ 용 à ద 8 8

```
TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCCAGTAACGTTATACGATGTCGCAGGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 GTCAATTCAGGGTGGTGATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGGAGCTGAATTACATTCCCAACCGGGGGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 GIGICICITALCAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGGTGGTGGTAGAACGAAGGGGGGTGGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Trcrcccccaaccccarcagreecrearcarraacrarccecreeargaccaggargcca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                               FEATURE:

LOCATION: (2689)

COTHER INPORMATION: Faktor Xa Protease /position=388

OTHER INPORMATION: (Amino acid sequence)

FEATURE:

NAMB/KEY: misc feature

LOCATION: (3067)...(3108)

OTHER INPORMATION: /paacer between Cystatin C andBMP-2

PUBLICATION INFORMATION:

AUTHORS: Zwick, M B.

AUTHORS: Zwick, M B.

TITLE: Expression vector pMal-X, complete sequence

JOURNAL: Anal. Biochem.

VOLUME: 264

VOLUME: 264

SSUE: 1

PAGES: 87-97

DATE: 198-11-01

PAGES: 87-97

DATE: 198-11-01

DATE: 2001-05-07

DATE: SIDER: A DATE: 2001-05-07

PREEVANT RESIDUES: 1528 - 3453
                                                                                                                                                            FEATURE:
MAME/KEY: CDS
LOCATION: (1528)..(3453)
CTHER INFORMATION: /product = fusion protein MBP Cystatin C BMP-2
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 82.0%; Score 2705.8; DB 18; Lengt Best Local Similarity 99.2%; Pred. No. 0; Matches 2719; Conservative 0; Mismatches 22; Indels
                                                                                                                                         OTHER INFORMATION: Expression vector pMalc2cchbmp2
                                                                         TYPE: DNA
ORGANISM: Artificial Sequence
             Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-257-384A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                             SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                  2520
                                                                                                                                                                                   2640
                                                                                                                                                                                                                              2640
                                                                                                                                                                                                                                                                        2700
                                                                                                                                                                                                                                                                                                                 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1, Application US/10257384A
Publication No. US20040087524A1
APPLICANT: Wiederanders, Bernd
APPLICANT: Waubach, Gunter
TITLE OF INVENTION: Agent for postoperative use after removal of bone tumors
FILE REPERBNCE: 2045-101
CURRENT APPLICATION NUMBER: US/10/257,384A
CURRENT FILING DATE: 2003-08-21
PRIOR PILING DATE: 2001-04-18
PRIOR PELING DATE: 2000-04-18
PRIOR PELING DATE: 2000-04-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                    GGATCCTCTTCCTCTGTGGCCCCAGGCGCCCTCGAGCCCCGGGGAGAAGCCCTATGCTTGT 2760
                                                                                                                                                                                                                                                                                                                                                                               2701 GGATCCTCTCTCTGTGGCCCAGGCGGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT 2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2761 CCGGAATGTGGTAAGTCCTTCAGCGATCCTGGCCACCTGGTTCGCCACCAGCGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC 2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2821 ACGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGCGCTCC 2880
                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3061 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGTCTTTCAGCCAGTCCAGCAACCTGGTGCGCCACCAACGTACTCACACCGGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGGGAAATCTTTAGT 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3241 ACCGGTAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300
                           AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                  2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                            GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                              2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                               AACAACAACAACAATAACAATAACAACCACGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                       CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGGTACGACGTTCCGGACTACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3121 CAGCGCCCACCTGGAACGCCATCAACGCACTCATACTGGCGAGAGAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -10-257-384A-1
2461
                                           2461
                                                                                       2521
                                                                                                                                                                                                                                                                 2641
                                                                                                                                                                                                                                                                                                          2641
                                                                                                                                                                                                                                                                                                                                                                                                                                         2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2941
                                                                                                                                                                            2581
                                                                                                                                                                                                                                                                                                                                                      2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3181
```

180

9

180 240 240 300 300 360 360 420 420 480

1810 GOGGENATURAGEORGICAGATACACCAGATACACACACACCACCACTIGGICAGATT 1880 1881 GOGGENATURAGEORGICACACACACACACACACACACCACCACTIGGICAGATT 1740 1881 GOGGENATURAGEORGICACACACACACACACACACACACACACACACACACACA
6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8
Controlled

셤

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1620
         481 TIGCIGIGGAAGCIGCCIGCACTAAIGIICCGGCGITATITCIIGAIGICICIGACCAGA 540
                                                                                                     999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1620
                                                                                                                                  99
                                                                                                                                                               720
                                                                                                                                                                                           720
                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                      960
                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                               TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                     CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                            901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                1201 GCACAATTCTCAIGTTTGACAGCTTAICATCGACTGCACGGGCACCAATGCTTCTGGGG
                                                                                                                                                                                                                                                                                              TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                              841 TGCGCGCATTACCGAGTCCGGGCTGCGCGTTGGGGGAATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                              ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGCCAATCAGCTGTTGCCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081 CGCAAACCGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTCGCTCAAGGCGCACTCCCGGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAAQGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1441 ATTGTGAGCGGATAACAATTTCACGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441 ATTGTGAGCGGATAACAATTTCACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201
                                                                                                 601
                                                                                                                             601
                                                                                                                                                         199
                                                                                                                                                                                       199
                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1561
                                    ò
                                                             셤
                                                                                             à
                                                                                                                       임
                                                                                                                                                ò
                                                                                                                                                                               g
                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                            유
상
                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                   Sequence 5, Application US/10149472
| Sequence 5, Application US/10149472
| Publication No. US20040029204A1
| GENERAL INFORMATION:
| APPLICANT: GOUBLN-CRAMATICA, FRANCOISE
| APPLICANT: DUCCMMUIN, BERNARD
| APPLICANT: DUCCMMUIN, BERNARD
| APPLICANT: PREVOST, GREGOIRE
| TITLE OF INVENTION: METHOD FOR OBTAINING HUMAN CDC25 PHOSPHATASE AND METHOD
| TITLE OF INVENTION: FOR IDENTIFYING HUMAN CDC25 PHOSPHATASE MODULATORS
| TITLE OF INVENTION: FOR IDENTIFYING HUMAN CDC25 PHOSPHATASE MODULATORS
| TITLE OF INVENTION WIMBER: US/10/149,472
| CURRENT APPLICATION NUMBER: PS 99/15722
| PRIOR PELLING DATE: 2000-12-13
| PRIOR PELLING DATE: 2000-12-14
| PRIOR PELLING DATE: 2000-05-30
| PRIOR APPLICATION NUMBER: FR 00/12008
| PRIOR APPLICATION NUMBER: FR 00/12008
| PRIOR APPLICATION NUMBER: FR 00/12008
| PRIOR APPLICATION NUMBER: FR 00/12008
| PRIOR PILING DATE: 2000-09-21
| NUMBER OF SEQ ID NOS: 14
| SEQ ID NO 5
| LENGTH 8 8101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGAGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 GIGICITIAICAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGCCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 8101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Description of Artificial Sequence: Synthetic (CTHER INFORMATION: UM109 / PMAL - Hs Cdc25C strain US-10-149-472-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2; Indels
2701 GGATCCTCCAGTCCCGGCAAGCCGCCGCGCCTGGTGGGAGG 2741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82.0%; Score 2705.8;
99.9%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 2707;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
```

셤 ઠે

ò සි දි 셤 ठे 셤 8 6

g 8 6

888

ઠે

g

8 8 6 8

ે

g

g

8

g

ò

ద

ઠે

g

ઠે

g

ઠે

6 8 6 8 6 8 6 8

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGGAAAAAGTGGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTGGTGTCGATGGTAGAACGAAGGGGCGTCGTAAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGCCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Description of the artificial sequence: plasmid; OTHER INFORMATION: pMAL-c2x
US-10-343-859-8
                                                                                                                                                                                                                                                                                                                                                                                                                              .;
0
                                                                                                                                                                                                                                                                                                                                                                                                  Score 2701; DB 19; Length 6648; Pred. No. 0; 0; Mismatches 5; Indels 0;
                                                                                                                                        ij
                                                                                                                                           mutations
                                                                                   Sequence 8, Application US/10343859
Sequence 8, Application US/10343859
Publication No. US20040110161A1
GENERAL INPORMATION:
FILE OF INVENTION: Method for detecting mut:
TITLE OF INVENTION: maclectide sequences
FILE REFERENCE: 612,406-033
CURRENT APPLICATION NUMBER: US/10/343,859
CURRENT FILING DATE: 2003-11-24
PRIOR FILING DATE: 2001-07-13
PRIOR FILING DATE: 2000-08-04
NUMBER OF SEQ ID NOS: 52
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 99.8%;
Matches 2704; Conservative 0
                                                                                                                                                                                                                                                                                               LENGTH: 6648
TYPE: DNA
OXGANISM: Artificial sequence
FEATURE:
2701 GGATCCTCT 2709
||||||||||
2701 GGATCCTCT 2709
                                                             RESULT 8
US-10-343-859-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ٦
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         දු පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 6 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
 ઠે
                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                              2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2640
                                                                                        1740
                                                                                                                                                                   1860
                                                                                                                                                                                                                     1920
                                                                                                                                                                                                                                             1920
                                                                                                                                                                                                                                                                                                1980
                                                                                                                                                                                                                                                                                                                           2040
                                                                                                                                                                                                                                                                                                                                                   2040
                                                                                                                                                                                                                                                                                                                                                                             2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                        2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGGCAACTGGCGGATGGCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC
                                                                                                                              1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCGTTGT
                                                                                                                                                               GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                          CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGACGGGGGTTATGCCTTCAAG
                                                                                                                                                                                                                                                                                                                                      CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGGTTATGCTGTTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAAGCGGTTAATAAAAACACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                               GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                             GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                             TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                     2041 TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACAACAATAACAATAACAACAACATCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                              GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                    1621
                                                                                     1681
                                                                                                              1741
                                                                                                                                                                                          1801
                                                                                                                                                                                                                                            1861
                                                                                                                                                                                                                                                                                                                                                  1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2641
                                                             1681
                                                                                                                                                                  1801
                                                                                                                                                                                                                    1861
                                                                                                                                                                                                                                                                       1921
                                                                                                                                                                                                                                                                                                1921
                                                                                                                                                                                                                                                                                                                                                                             2041
                                                                                                                                                                                                                                                                                                                                                                                                                              2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2641
                                                                                                                                                                                                                                                                                                                          1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2281
```

8 & 8

දු පු

셤

1681 GCGGCAACTGGCCATGACATTATCTTCTGGGCACGACCGCTTTGGTGGCTAC	192 192 198 198		AGACACCGATTAC 21	1 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 228 21 GCATGGTCCAACATCGACACGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 228 22 GCATGGTCCAACATCGACACCTTGCTAAGTGATTATGGTGTAACGGTACTGCCGACCTTC 228 81 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGAGCGCAGGTATTAACGCCGCCACGT 234 81 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCACGT 234 81 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCACGT 234	2341 CCGAACAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTG 2400 2341 CCGAACAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTG 2400 2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2461 TTGGCGAAAGATCCACGTATTGCCGCCACGAAAACGCCCAGAAAGGTGAAATCATG 2520 [2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGGGCAGATTAATTCGAGCTCG 2640 [
868686	6 6 6 6	8 8 8	oy Oy Oy	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	ò a ò a	8 8 8 8 8
77.							
0 0 0 0 0 0	ATGAGGGCATCGTCCCACTGCGGTTTTCACAAACCATGCAAATGCTGA 78 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCGAT	ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAGTGGGATTTC 960 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 102 ACGATACCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 102 ACGATACCAAACCAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 102 ACGATACCAACAACAACAACAACAACAACAACAACAACAACAA	AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAACACCCCTGGCGCCCAATA 108		TCAGGCAGCCATCGCAAGCTGTGGTATGCAGCGCGAAATTCG 132, TCAGGCAGCCATCATCGCATAATTCG 132, TCAGGCAGCCAGCAAATTCG 132, TCAGGCAGCCATCGAAAGCATCGAAATTCG 132, TCAGGCAGCCATCAAATTCG 132, TCAGGCCAGCACCATCAATTCG 132, TGTCGCTCAAAGCCATCAAGCTTCTGGATAATTTTTGCGCCGACATCATAACGCTT 138, TGTCGCTCAAAGCGCTTCTGGATAATGTTTTTTGCGCCGACATCATAACGCTT 138, TGTCGCTCAAAGCGCTT 138, TGTCGCTCAAAGCGCTT 138, TGTCGCTCAAAGCGCTT 138, TGTCGCTCAAAGCGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCTT 138, TGTCGCTCAAAACGCT 138, TGTCAAAACGCT AACGCT 138, TGTCAAAACGCT 138, TGTCAAAACCAAAAACAAAACAAAAACAAAAAAAAAAAA	GTGGA 144 GTGGA 144 GTGGA 144 CACGA 150 CACGA 150	GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 156

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1680
                                                                                                                                                                                                                                                                                                                                  1020
                                                                                                                                                                                                                                                                                                                                                              1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1740
                                                                                                                                                                                                                                                                                                                                                                                                                          1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 960
                                                         720
                                                                                       780
                                                                                                                     780
                                                                                                                                                   840
                                                                                                                                                                               840
                                                                                                                                                                                                             900
                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                      960
                                                                                                                                                                                                                                                                                                                                                                                                                                                    901 ACGATACCGAGAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                            AGGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGGCAGCCATCGGAAGCTGTGGTAGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCACTTCACCAACAAGGACCATAGGAAAATCGAAGAAGAAGTAAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1681 GCGCCACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGGCTTTGGTGGCTAC
                                                                                       CGGAACGCGAAGCCAACTGCAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                             961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                            AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rcaggcagccarcggaagcrgrggrarggcrgrgcaggrcgraaarcacrgcaraarrcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCEGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                             CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                       CGGAACGGGAAGGCGACTGGAGTGCCCATGTCCGGTTTTCAACAACCATGCAAATGCTGA
                                                                                                                                                   ATGAGGCCATCGTTCCCACTGCGATGCTCGTTGCCAACGATCAGATGGCCCTGGGCGCCAA
                                                                                                                                                                             ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                           TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                         841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                      ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                  GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1441 ATTGTGAGGGGATAACAATTTCACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1621
                                                                                                                                                   781
                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1501
                                                           199
                                                                                       721
                                                                                                                   721
                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>ک</u> ۾
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                              ò
                                                                                                               g
                                                                                                                                                   ò
                                                                                                                                                                         g
                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Description of the artificial sequence: pMALc2x-mutS; OTHER INFORMATION: plasmid
US-10-343-859-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGGGAAAAAGTGGAACGGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGCCCCCCCCAAATTGTCCCCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Greanticagegregargraaaccagraacgraragargregargregargrarece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                          Length 9191;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                       mutations in
                                                                                                                                                                                                                                                                                                                                                                                                            19;
                                                                                                                                                                                                                                                                                                                                                                                                            BB
                                                                                                                                                                                                                                                                                                                                                                                                       81.8%; Score 2698; D
99.8%; Pred. No. 0;
:ive 0; Mismatches
                                     Sequence 9, Application US/10343859
| Publication No. US20040110161A1
| GENERAL INFORMATION:
| APPLICANT: Nanogen Recognomics GMBH
| TITLE OF INVENTION: Method for detecting muter of INVENTION: mucleotide sequences | FILE REFRENCE: 612,406-033 |
| CURRENT APPLICATION NUMBER: US/10/343,859 |
| CURRENT APPLICATION NUMBER: PCT/EPO1/08127 |
| PRIOR FILING DATE: 2001-07-13 |
| PRIOR FILING DATE: 2000-044 |
| NUMBER OF SEQ ID NOS: 52 |
| SEQ ID NO 9 |
| LENGTH, 9191
                                                                                                                                                                                                                                                                                                    TYPE: DNA
ORGANISM: Artificial sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 99.8
Matches 2701; Conservative
                             -10-343-859-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
```

엄

ò

셤

8

ે

ద ઠે 셤 음 중

g

8

ద

Š

a

ò

셤

ठे

8 8 8

us-09-765-555b-18.rnpb

```
TYPE: DNA
ORGANISM: Toxoplasma gondii
FEATURE:
                                                                                                                                                                              NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                 $ B
                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ठे
                                                                                                                                                          2040
                                                                                                                                                                                                                                                       2160
                                                                                                                                                                                                                                                                          2220
                                                                           GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA 1920
                                                                                      TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100
                                                                                                                                                                                                                                GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACACATGAATGCAGACACCGATTAC 2160
                                                                                                                                                                                                                                                                                             2220
                                                                                                                                                                                                                                                                                                               2280
                                                                                                                                                                                                                                                                                                                                 2280
                                                                                                                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                                                                                                                                         2400
                                                                                                                                                                                                                                                                                                                                                                                                             2400
                                                                                                                                                                                                                                                                                                                                                                                                                               2460
                                                                                                                                                                                                         2041 TATGAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCGTTGT
                                                                                                                                                      CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCGTTCAAG
                                      CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                          CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                            2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAACACACATGAATGCAGACACCCGATTAC
                                                                                                                                                                                                                                                                                                                       2221 GCATGGTCCAACATGGACAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                      TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCCGTGG
                                                                                                                                                                                                                                                                                 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCGGT
                                                                                                                                                                                                                                                                                                                                                                                      2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                           GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2581 GCCAGCGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGAGTTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTGAGAATTC
                                                                                                                                                                                                                                                                                                           GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                 2281 AAGGGTCAACCAICCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2641 AACAACAACAACAATAACAATAACAACAACCACGGGATCGAGGATGGAATTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
US-10-263-153-40
, Sequence 40, Application US/10263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGATCC 2706
                                                         1801
                                                                            1861
                                                                                                                                    1921
                                                                                                                                                       1981
                                                                                                                                                                         1981
                                                                                                                                                                                                                                                                                                                                                                                      2341 (
                                      1801
                                                                                              1961
                                                                                                                1921
                                                                                                                                                                                            2041
                                                                                                                                                                                                                                                                                         2161
                                                                                                                                                                                                                                                                                                           2221
                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                2101
                                                                                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2641
                                                                                                                                                                                                                                                                                                                                                                                                                            2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2701
             g
                                  रु है ह
                                                                                       8 8
                                                                                                                                8 8 8
                                                                                                                                                                                                         a
ઠે
                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                     ठे
                                                                                                                                                                                                                                                                                                                          유
                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                              유
                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                  8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                              6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          666666
```

```
120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301 ACGCCCCTCGCAAATTGTCGCGGCGATTAAATCTCGCCCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361 TGGTGGTGTCGATGGTAGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIGETIGEAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Abbort Laboratories
APPLICANT: Abbort Laboratories
APPLICANT: Abbort Laboratories
APPLICANT: Patel, Chandu B.
APPLICANT: Patel, Chandu B.
APPLICANT: Patel, Chandu B.
TITLE OF INVENTION: GINBURGY, SANIGOR R.
TITLE OF INVENTION: GENERALICALLY ENGINEERED P30 ANTIGEN,
TITLE OF INVENTION: GENERALICALLY ENGINEERED P30 ANTIGEN,
TITLE OF INVENTION: JMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REFERENCE: 6984.US.Ol
CURRENT FILING DATE: 2002-10-22
NUMBER OF SEQ ID NOS: 74
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 40
LENGTH: 7112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 7112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; LOCATION: (1528)...(3189)
; OTHER INFORMATION: pMBP-c2X-ToxoP30dell1 (52-214aa)
US-10-263-153-40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

```
1260
                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                                                                                                        1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1800
               840
                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAACCTGGGAA 1920
                                                                                        900
                                                                                                                 960
                                                           ATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                            GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAAGGCGGTGA
                                                                                                                                                                                                                             CGCAAACCGCCTCTCCCCGCGCGTTGGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                    GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                   1501 GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAAGAAGATAAACTGGTAAATCTGG
                                                                                                                                                                                                                AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                    TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1441 AITGIGAGGGGAIAACAATITCACACAGGAAACAGCCAGICCGIITAAGGIGIITITCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTGCGGTAAGAAATTCGAAAAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACGCCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGGGTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1741 GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGGCAACTGGCGATGGCCCTGACATTATCTTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccgrrraccredeargccgracgrracaacgcaagcrgarracrracccgarcgcrgrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                              1021
                                                            841
                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                    841
                                                                                                            901
                                                                                                                                     901
                                                                                                                                                               196
                                                                                                                                                                                     196
                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                   1201
                                                                                                                                                                                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1861
                           셤
                                                          ⋩
                                                                            g
                                                                                                   ò
                                                                                                                               셤
                                                                                                                                                            ò
                                                                                                                                                                             8
8
                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                          8 & 8 &
                                                                                                                                                                                                                                                                                                                                                                                                                 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 %
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                      GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGTCTGCGTCGCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 7259;
TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REPERRICE: 6984.03.01
CURRENT APPLICATION WUMBER: US/10/263,153
CURRENT FILING DATE: 2002-10-22
SUFFRENT FILING DATE: 4002-10-22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 30
LENGTH: 7259
                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                 6; Indels
                                                                                                                                                                 ; LOCATION: (1528) ... (3336)
; OTHER INFORMATION: pMBP-c2X-ToxoP30de14de18 (83-294aa)
US-10-263-153-30
                                                                                                                                                                                                                        DB 18;
                                                                                                                                                                                                                    Query Match
81.5%; Score 2690.4;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches
                                                                                                                 TYPE: DNA
ORGANISM: Toxoplasma gondii
                                                                                                                                           FEATURE:
NAME/KEY: CDS
                                                                                                                                                                                                                                                                                              -
                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                               19
                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
```

셤 ò

ઠે 셤 ò 움 중 셤

셤 ò

रुं है रुं

음 상 음

8686

ठे हे ठ

888.

d

ò

중 옵

g ò 셤 ሯ g ò g ò 요

8

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGCGCCATTACCGAGTCCGGGCTGCGCTTGCTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGCGTGTCCGGTTTTCAACAACAACAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAGGGCATCGTTCCCACTGCGGATGCTGGTTGCCAACGATCAGATGGCGCTGGGGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                   CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                               GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGCCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                 DB 18; Length 7322;
                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                           6; Indels
                                                                                                              NAME/KEY: CDS

1. COCATION: (1528)...(3399)

OTHER INFORMATION: pMBP-c2X-ToxoP30dell0 (52-284aa)

MS-10-265-153-35
                                                                                                                                                                                                                            Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                            Query Match
Best Local Similarity 99.8%;
Matches 2694; Conservative
SEQ ID NO 35
LENGTH: 7322
TYPE: DNA
ORGANISM: Toxoplasma gondii
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                  Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                          Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                             Д
                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                   1980
                                                                                                                                                             2040
                                                                                                                                                                                                                                                    2100
                                                                                                                                                                                                                                                                                                2100
                                                                                                                                                                                                                                                                                                                                             2160
                                                                                                                                                                                                                                                                                                                                                                                         2160
                                                                                                                                                                                                                                                                                                                                                                                                                                      2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                           CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCTCAAG
                                                                                                                                                                                                                                                                           TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                    GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCGAGACACGGTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461 Trescenaracicaceratrecescentricsana acceccasano en contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCAGCGCTCGTCGACTGTCGATGAAGCCCTGAAAGACGCGCGGAGCTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                          CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                    TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                             GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACGCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ccdaacarcccccadarerccccrrrrcregrarecccrrcccracreccecareacec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                      GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 35, Application US/10263153

Publication No. US20040067239A1

GENERAL INFORMATION:

APPLICANT: Abbort Laboratories

APPLICANT: Maine, Gregory T.

APPLICANT: Patel, Chandu B.

APPLICANT: Gineburg, Sanford R.

APPLICANT: Bliese, Timothy R.

TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF

FILE REFERENCE: 694-US-01.

CURRENT APPLICATION NUMBER: US/10/263,153

CURRENT FILING DATE: 2002-10-22

NUMBER OF SEQ ID NOS: 74

SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 12
US-10-263-153-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2641
                                                                                                                                                                                                                                                                                                                                                                                                                                 2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                                                                                                                                                                                                                                                                                                2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2521
                                                                                                              1921
                                                                                                                                                                                                       1981
                                                                                                                                                                                                                                                    2041
                                                                                                                                                                                                                                                                                                                                                                                       2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2581
                         1861
                                                                      1921
                                                                                                                                                          1981
                                                                                                                                                                                                                                                                                                                                          2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2461
```

g

g ઠે

ઠે

8 6 ò g ద

ठ

ሯ g

1981 CTGCAGGACCTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTRATGCGTTCACG 2040 1981 CTGCAGGACCTACTTCACCTGGTTGACGGGGGGTTRATGCGTTCACGGGGGTTCACGGGGGTTCACGGGGGTTCACGGGGGGTTCACGGGGGGGTTCACGGGGGGGG	RESULT 13 US-10-263-153-25 US-10-263-153-25 Sequence 25, Application US/10263153 Publication No. US20040067239A1 GENERAL INFORMATION: APPLICANT: Abbott Laboratories APPLICANT: Patel, Chandu B. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: Ginsburg, Sanford R. APPLICANT: All Sanford R. APP
10	1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGATAACTGGAAGGAA

961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAA	Oy 1141 CCCGACTGGAAAGCGGCGATGGCAACGCAATTAATGTGGTTGGT	Qy 1261 TCAGGCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCGCTGCATAATTCG 1320 Db 1261 TCAGGCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320 Qy 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 Db 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380	Qy 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 Db 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 Qy 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCGTCCGT	Qy 1501 GCACTTCACCAACAAGGACCATAGATATGAAAACTGAAGGTAAACTGGTAATCTGG 1560 Db 1501 GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG 1560 Qy 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT 1620 Db 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620	OY 1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGATAAACTGGAAGAAATTCCCACAGGTT 1680	Oy 1741 GCTCAATCTGGCTGTAAATCACCCCGGACAAGGGTTCCAGGACAAGCTGTTT 1800 1741 GCTCAATCTGGCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 Oy 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTTACCCCAATGCTTACCCGATGTT 1860 Bot CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTTACCCCAATGCTTACCCCGATCGTT 1860 Bot CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCCGATCGCTGTT 1860	1861 GAAGCGTTATCGCTGATTTATACAAAGATCTGCTGCGAACCCGCCAAAAACCTGGGAA 1920 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 1921 GAGATCCGGCTGATTATAACAAAGATCTGCTGCTGCCGCCCCAAAAACCTGGGAA 1920 1921 GAGATCCGGCGCTGATAAAGAACTGAAAGCGAAAGCGAACCGGCGCTGATGTTCAAC 1980 1931 GAGATCCGGCGCTGGATAAAGAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGAAAGCGCGCTTATGCTTCAAC 1980 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTCATGCTTCAAC 2040 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTCATGCTTCAAC 2040 1981 CTGCAAGAACCGCAAGTACGCCGCTGATTAAAGAACGCTGACGGCAAAGCG 2100 2041 TATGAAAACGCCAAGTACGACGTCGCGCGCAAAGCG 2100 2041 TATGAAAACGCCAAATAAAACGCTCGCGCAAAGCG 2100 2041 TATGAAAACGCCAAATAAAACGCTCGCCCCCAAAACCG 2100 2041 TATGAAAAACCGCAAATAAAACGCTCGCCCCAAAACCG 2100 2041 TATGAAAAACCGCAAATAAAACGCTCGCCCCAAAACCG 2100 2041 TATGAAAAACCGCAAATAAAACCGTCCCCCCCCAAACCCTCCAATAAACCGCTCCAATAAAACCGCTCCCCAAACACCCTCCAATAAACCGCTCCCCAAACACCCTCCAATAAACCGCTCCCAAAAACCGCTACACTCCCCCCAAAAACCGCTACAACTCACCCCCCAAAAACCGCTACAACTCCCCCCAAAAACCGCTACAACACCCTCCAATAAAAAAAA
/ OTHER INFORMATION: pMBP-c2X-ToxoP30de14C (52-294aa) US-10-263-153-25 Query Match 81.5%; Score 2690.4; DB 18; Length 7352; Best Local Similarity 99.8%; Pred. No. 0; Matches 2694; Conservative 0; Mismatches 6; Indels 0; Gaps 0; Matches 2694; Conservative 0; Mismatches 6; Indels 0; Gaps 0; OY 1 CGGACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGGCCCGGAAGAG 60 Db 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAG 60	61 GTCAATTCAGGGTGGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGGATATGCCG 120	CGCGGGAAAAAGTGGAAGCGGGGATGGCGGGGGGTGATTACATTCCCAACGGGGGCGTGGCACGGGGGGCGTGGCGGGGGGGG	ACGCCCCACCTGCCAACTGCTTGCTGATTGCCACCTCCACCTCCAGTCTGGCCCTGC ACGCCCGCCGAATTGTCGCGGATTAAATCTCGCGCCGATCAACTGGGTGCCTGC ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG TGGTGGTGTCGATGGTAAAACGAAGCGGCGTGTAAAAGCGGCGCGCAGCAACTCAGCGCGCGC	TCTCGCGCAACGCTCAGTGGGCTGATCATTAACTATCGCTGGATGACGGCGGTGCAATC TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TTCTCGCGCCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TTGCTGTGGAAGCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTCGACCAGA	481 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540 541 CACCCATCAACAGTATTATTTCTCCCATGAAGACGGACTGGGCGTGGACGTGGACTGGGACTGGACATC 600 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 600 601 TGGTCGCATTGGGTCACCAGCAATTCGCGCTGTTAACGGGCCCATTAAGTTCTGGG 660 601 TGGTCGCATTAGGTCACCAGCAAATTCGGCTGTTAACGCGCCCATTAAGTTCTGGG 660 601 TGGTCGCATTAGGTCACCAAATTCGGCTGTTAACGCGCCCATTAAGTTCTTCTGG 660	GGGGTCTGGGTGGGCTGGCTGAAAATATCTCACTCGCAATCAAATTCAGCCGATAG [ATGAGGGCAAACCAGCGTGGTTGGTTGCTACGATCAGATACCAGATACCAGATCAGATCAGATCAGATACCAGATACCAGATCAGATCAGATACCAGATACCAGATAACCAGATAATCCCAGATAACCAGATAACCAGATAATCAGAATACCAGATAACCAACAATAACCAGATAATCAGAATAACCAGATAACAACAGATTATCAGATAACCAACAATAACCAACAATAACCAACAATAACCAACAA

8 4 8 4 8 4 8 6 8 6 8

2520

2400 2400 2580 2580

> completed: August 3, 2005, 04:22:14 e : 1316.2 secs Search co

THIS PAGE BLANK (USPTO)	
	•

Н

us-09-765-555b-18.rst

```
BQ751936 EST632499
CK394523 hggada4D0
CK118014 218N06.p1
BQ751655 EST632218
BQ751220 EST631783
CB863541 HH04A08y
AL038548 DKFZp566E
AY080106 AY080106
BJ063872 BJ063872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKFZp434A
PRI0130b
DKFZp434L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DKFZp434B
DKFZp564I
B0195F10-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HH07B20y
DKFZp434B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKFZp564C
AV594538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKFZp434C
hggada1B1
                                                                    2005, 10:29:49 ; Search time 6743.2 Seconds (without alignments) 18627.964 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRI0124a
AY080094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                              1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CK394523
BQ751853
BQ7518014
BQ751220
BQ751220
CB863541
AY080106
AL04483
BJ0648483
AL04483
AL045353
CR8653814
AL045353
AV59458
AL03742
AL045337
AL045337
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK39426
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL045337
CK394246
AL04537
                                                                                                                                                                                                                                    68479088
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                           34239544 seqs, 19032134700 residues
                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                               OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BQ751936
CK394523
CK118014
BQ751655
BQ751220
CB863541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL038548
AY080106
AY080106
AL063872
CB863814
AL045353
AY080094
AY080094
AY094588
AY0943868
CK394246
AL045337
AL045337
AL045337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL045341
AL037051
CA895956
                                                                                                                                                                       IDENTITY_NUC Gapopt 10.0
                                                                                                                      US-09-765-555B-18
3300
                                                                                                                                                                                                                                                          Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                          90 est1:

90 est2:

90 est3:

90 est4:

90 est6:

90 9881:

90 9881:
                                                                       7
                                                                         August
                                                                                                                                                                                                                                                                                                                                                 EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20.8
20.5
20.5
19.6
119.4
118.7
118.3
118.3
                                                                                                                      Title:
Perfect score:
                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                755.4
684.8
676.4
676.4
647.4
615.8
603
603
886.4
588.8
588.8
588.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     563.2
562.6
549.4
546.8
                                                                                                                                              Sequence:
                                                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                                                                                 Database
                                                                       Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Result
```

CK394349 hggada2D0 AL039077 DKPZp566G CB665224 HH04B08u AL044427 DKPZp586H AL042909 DKPZp534J CA81974 KO994C10- AL03811 DKPZp534J CA8950032 B0156F05- CB862099 HH06A02y CA8950032 B0124P04- AL04407 DKPZp566C CA895436 B012AP04- AL039076 DKPZp566G AL039076 DKPZp566G CK3934397 hggada2H1 CB862715 HH03F14u AL039128 DKRZp566K AL039589 DKRZp566K AL039589 DKRZp434D CA887583 B0137H04- AL039549 DKRZZp434G CA887583 B0137H04-	### PAIGNMENTS ###################################
CK394149 AL039077 CR862524 AL042803 AL042803 CA881974 AL044407 AL038025 CR85234 AL039036 AL03958 AL03958 AL03958 AL03958 CR863409 CR863409	ALIGNMENTS 19 DSCT Colletotrichum trifolii 2. I. GI:21907341 rrichum trifolii 2. Fully Reservent Pezizomyc 2. Fully Reservent Pezizomyc 2. Fully Reservent Pezizomyc 2. Fully Reservent Pezizomyc 2. Fully Reservent Pezizomyc 2. Dickman, M., Town, C.D., Van 2. A., Dickman, M., Town, C.D., Van 2. Dickman, M., Town, C.D., Van 2. Dickman, M., Town, C.D., Van 2. Dickman, M., Town, C.D., Van 2. Deborah A. Samac 2. Deborah A. Samac 2. Deborah A. Samac 2. Deborah A. Samac 2. Deborah A. Samac 2. Samac 3. Samac
616116711611611611	colleto colleto trifoli trifoli trifoli trifoli gi; Ascor llaa of C ckman, M. 794) Blanchora 1794) Blanchora 1794) Blanchora 1794) Blanchora 1794) Blanchora 1794) Blanchora 1794) Blanchora 1794 Blanchora 1794 Blanchora 1794 Blanchora 1796 Blancho
648 6444 7344 7344 736 736 736 736 736 736 736 736 736 736	GI:21 GI:21 Chum tr
24.00 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	BQ751936 BST632499 DSCT COlletot Bequence. BG751936. BQ751936. BG751936.1 GI:21907341 EST. Collectrichum trifolii Colletotrichum trifolii Unpublishorta Phyllachoraca Unpublishorta Phylachoraca Unpublishorta No Munchobiishorta Unpublishorta Of Plant Pat University of Minnesote University of Minnesote University of Minnesote University of Minnesote University of Minnesote University of Minnesote University of Minnesote University of Minnesote University of Minnesote Iccation/Quali I. 794 Corqanism="Colleton" Incation Corqanism="Colleton" Incation Corqanism="Colleton" Incollation) Goontaining 2% Clone="PubSCT8 Clone="PubSCT
22 23 24 24 24 24 24 24 24 24 24 24 24 24 24	BOTH BOTH BOTH BOTH BOTH BOTH BOTH BOTH
20000000000000000000000000000000000000	RESULT 1 BO751936 LOCUS DEFINITION ACCESSION VERSION VERSION VERYWORDS SOUFC TITLE JOURNAL COMMENT FEATURES SOUFC
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	REF. CO. CO.

```
E. coli Y1090 and phage DNA was purified from a liquid lysate. The cDNA inserts were gel purified after EcoRI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DH5alpha which were plated onto medium with X-gal for selection of recombinants."
                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                 CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA 242
                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     602
                                                                                                                                                                                                                                                                                                                                                                                             241 CAACTGGCGGGCAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                       GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGTCTGCGTCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG 722
                                                                                                                                                                                                                                                                                                                                                                     CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62
                                                                                                                                                                                    9
                                                                                                                                                                                  GACACTTICGAAIGGCGCAAAACCITICGCGGIAIGGCAIGAIAGCGCCCGGAAGAGAGI
                                                                                                                                                                                                                                                               GOGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                          GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                            CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GICGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cercrecercrescrescrescraararararcrescraecaarcaarreascesarasce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                    Gaps
                                                                                                                                    .
0
                                                                                                          Length 794;
                                                                                                                                   10; Indels
                                                                                                       Query Match
23.6%; Score 778; DB 5; L
Best Local Similarity 98.7%; Pred. No. 3.4e-219;
Matches 784; Conservative 0; Mismatches 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGGCATCGTTCC 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGGGCATCGTTCC
                                                                                                                                                          ო
                                                                                                                                                                                                                                                               123
                                                                                                                                                                                                            63
                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                   183
                                                                                                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                                                                                                                                        303
                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                             ORIGIN
                                                                                                                                                                             g
                                                                                                                                                                                                                              გ
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                       윱
                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               名
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
```

CK394523 779 bp mRNA linear EST 30-DEC-2003 hggada4D08 Gland Cell Amplified cDNA Library Heterodera glycines

RESULT 2 CK394523/c LOCUS DEFINITION

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   146
                                                                                                       Heterodera glycines
Heterodera glycines
Bukaryota, Metazoa, Nematoda, Chromadorea, Tylenchida, Tylenchina,
Tylenchoidea, Heteroderidae, Heteroderinae, Heterodera.
                                                                                                                                                                                                                                                                                                               Davis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDNA Library, single pass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTTATCAGACCGTTTTCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGGTGAACCAGGCCACGTTTCTGCGAAAACGCGGAAAAAGTGGAAGCGGCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGGTGAACCAGGCCACGTTTCTGCGAAAAAGGCGGGAAAAAGTGGAAGCGGCGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccadraacerraracearercecaearareceerercrivarcaeacerrrcocec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GITCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATGAAGACGGTACGGGGGGGGGGGGACTGGTCGCCATTGGGTCACCAGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            327 ATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTCGATGGTAGAACGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                            The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/db_xref="taxon:51029"
/cell_type="gland"
/coll_type="gland"
/clone_lib="gland cell Amplified cDNA Library"
/note="Organ: gland cell; Vector: pSportII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 779;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 770.6; DB 7;
Pred. No. 5.3e-217;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Amplified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         glycines"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: trmaier@iastate.edu
Heterodera glycines Gland Cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
1. .779
/organism="Heterodera
                       CK394523
CK394523.1 GI:40389794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 23.4%;
Best Local Similarity 99.4%;
Matches 773; Conservative (
mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    267
                       ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
```

m

```
1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1104
  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                    504
                                                                                                                                               564
                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                       684
                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                     744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                           624
                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BQ751655
EST632218 DSCT Colletotrichum trifolii cDNA clone pDSCT6-59, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Colletotrichum trifolii
Colletotrichum trifolii
Colletotrichum trifolii
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes incertae sedis; Phyllachorales; Phyllachoraceae;
mitosporic Phyllachoraceae; Colletotrichum.
1 (bases 1 to 793)
Samac, D.A., Dickman,M., Town,C.D., Van Aken,S., Utterback,T.,
Cheung,F. and Fraser,C.M.
ESTS from mycelia of Colletotrichum trifolii race 1
Unpublished (2002)
                                                                                                                                                                                            541 ATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGG
                                                                                                                  TGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   985 ACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAGGGCCAATCAGCTGTTGCCCGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661 CACTGGTGAAAAAAAAAACACCCTGGCGCCCAATACGCAAACGCCTCTCCCCGGGGGT
                                                               GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                                                                                                                                                                                                                             CCCATGAAGACGGTACGCGACTGGCCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                                                                                                                                                                                                                                         ATAAATATCTCACTCGCAATCAAATTCAGCGGAACGGGAAGGCGAAGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGGCATCGTTCCCACTGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCTGGTTGCCAACGATCAGATGGCGCTGGGGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACGAAGACAGCTCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        925 ATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
  Gaps
  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAA 1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
```

```
BQ751220
EST631783 DSCT Colletotrichum trifolii cDNA clone pDSCT3-64, mRNA
                                                      /tissue_type="mycelia"
/dev stage="Young, actively growing mycelia (3 days after
inculation) grown in liquid culture (cutin minimal medium
containing 2%ducose)."
/lab_host="DHSalpha"
                                                                                                                                                            GICGCATIGGGTCACCAGCAAAICGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG 662
                                                                                                                                                                                                                                                                                                                                                                       661 CGTCTGCGTCTGGCTGGCTGGCTTGGCTTCGCTCGCATCAATTCAGCGGTAGCG 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E TOURDE TO THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TOWN OF THE TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Colletotrichum trifolii
Colletotrichum trifolii
Colletotrichum trifolii
Bukaryota; Fungi; Asconycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes incertae sedis; Phyllachorales; Phyllachoraceae;
mitosporic Phyllachoraceae; Colletotrichum.
                                                                                                                           CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                               CGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: debbys@puccini.crl.umn.edu
TIGR sequence name: MTSAC64TV More information is available at:

    .806
/organism="Colletotrichum trifolii"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ົວ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                www.medicago.org
Seg primer: (gtA AtA CgA CtC ACt AtA ggg
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /db xref="taxon:5466"
/clone="pDSCT3-64"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/strain="race 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BQ751220
BQ751220.1 GI:21906625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGG
                                                                                                                           543
                                                                                                                                                                                                                                 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              783
                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                      663
                                                                                                                                                                                                                                                                                                                                                                                                                                            723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 5
BQ751220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                            셤
                                                                                                                                                               g
                                                                                                                ò
                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone lib="DSCT"
/note="Vector: pBluescript SK+; Site_1: EcoRI; Site_2:
EcoRI; isolate: 2sp2; cDNA was prepared from polyA+
enriched RNA The cDNA was ligated into Lambda gill from
Stratagene and packaged using Gigapack packaging extracts.
An aliquot of the amplified library was used to transduce
E. coll Y1090 and phage DNA was purified from a liquid
lyaste. The cDNA inserts were gel purified after EcoRI
digestion and ligated into pBluescript SK+, Allquots of
the ligation were used to transform E. coll DHSalpha which
were plated onto medium with X-gal for selection of
                                                                                                                   MN 55108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /tissue_type="mycelia"
/dev stage="Young, actively growing mycelia (3 days after inoculation) grown in liquid culture (cutin minimal medium containing 2%glucose)."
/lab_host="DH5alpha"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCTCTTATCAGACCGTTTCCCCGCGTGAACCAGGCCAGCTTTCTGCGAAAACG 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243 CAACTGGCGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGCAC 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                              at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACATCTTCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAAACCGGGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCGCGCAACGCGTCAGTGGGGTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                      available
                   Contact: Deborah A. Samac
Department of Plant Pathology
University of Minnesota
495 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN.
Tel: 612 625 1243
Fax: 651 649 5058
Email: debbys@puccini.crl.umn.edu
TIGR sequence name: MTSAF59TV More information is availab
www.medicago.org
Seq primer: (gtA AtA CgA CtC AtA ggg C).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23.1%; Score 762; DB 5; Length 793; 99.1%; Pred. No. 1.9e-214; ive 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                      /organism="Colletotrichum trifolii"
/mol_type="mRNA"
/strain="race 1"
                                                                                                                                                                                                                                                                                                                                                                                                                        db_xref="taxon:5466"
clone="pDSCT6-59"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                recombinants."
  Other_ESTs: EST632217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 99.1:
Matches 777; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                Bource
                                                                                                                                                                                                                                                                                  FEATURES
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
```

셤 à 셤

g ઠે

8 8 8

셤 ò 셤 ò 유 ઠે 셤 ~ GI:30058100

```
CB863541 689 bp mRNA linear EST 22-APR-2003
HH04A08y HH Hordeum vulgare CDNA clone HH04A08 3-PRIME, mRNA
sequence.
                                                                                                                                             481
                                                                                                                                                                                                                        783
                                                                  243
                                                                                                                                                                                               661
                                                 183
                                                                           241
                                                                                                   363
                                                                                                                                                                                                       723
                                                                                                                                                                                                                               778
                63
                                 123
                                                          181
                                                                                   303
                                                                                           301
                                                                                                           361
                                                                                                                    423
                                                                                                                            421
                                                                                                                                     483
                                                                                                                                                     543
                                                                                                                                                                      603
                                                                                                                                                                              501
                                                                                                                                                                                      663
                                                                                                                                                                                                                                            RESULT 6
CB863541/c
LOCUS
DEFINITION
                                                                                                                                                           g
                                                                                                                                                                                             g
                                                                                                          g
                                                                                                                          셤
                                                                                                                                   ò
                                                                                                                                            d
                                                                                                                                                    ò
                                                                                                                                                                     ઠે
                                                                                                                                                                              셤
                                                                                                                                                                                                       ò
                                                                                                                                                                                                               셤
                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                              셤
      요
                ઠ
                      g
                              8
                                       g
                                                 ò
                                                       g
                                                                 ò
                                                                         원
                                                                                  ò
                                                                                        g
                                                                                                   ઠે
                                                                                                                    ઠે
                                                                                                                                                                                      ò
ઠે
```

```
Hordeum vulgare
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Eukaryota; Wildidiplantae; Liliopsida; Poales; Poaceae;
Pooideae; Triticae; Hordeum.
1 (bases 1 to 689)
Varshney, R.K.; Zhang, H., Burton, R., Stein, N., Langridge, P. and
                                                                                                                                                                                                                                          Contact: Stein Nils
Molecular Markers Group, Department Genbank
Institute of Plant Genetics and Crop Plant Research (IPK)
Corrensstr. 3, 06466, Gatersleben, Germany
Tel: 039482-5592
                                                                                                                                                                                                     Barley ESTs from coleoptile tissue
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                       Email: stein@ipk-gatersleben.de
Insert Length: 689 Std Error:
Plate: 4 row: A column: 8
                                                                                                                                                                                                                                                                                                                                                                                                                 Seq primer: SP6.
                                                          Hordeum vulgare
 CB863541
CB863541.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                             ORGANISM
 ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                     TITLE
JOURNAL
COMMENT
                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
lysate. The cDNA inserts were gel purified after EcoRI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DH5alpha which were plated onto medium with X-gal for selection of recombinants."
                                                                                                                                                                                                                                                                                 122
                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                   242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       777
                                                                                                                                                                                                                                          9
                                                                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                              CGGGAAAAAGTGGAAGCGGCGATGGCGGGGGGGTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAACTGGCGGCGAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGGTCTCGATGCTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 GACACTTTCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                    CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCGGGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGGAAAAAGTGGAGCGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCGCGCAACGCGTCAGTGGGGCTGATAACTATCCGCTGGATGACCAGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gregerregereaceaeaaaregeererragegeeeeearraagreceeee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                       GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                 CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                           GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                      Gaps
                                                                                                                                                                    2,
                                                                                                                                Length 806;
                                                                                                                                                                    Indels
                                                                                                                                Score 755.4; DB 5;
Pred. No. 1.8e-212;
0; Mismatches 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGGGCATCGTTCCCACTGCGATGCTGGTTG 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGG--CATCGTTCCACTGCGATGCTGGTTG
                                                                                                                                22.9%;
ilarity 97.4%;
Conservative (
                                                                                                                                                   Similarity
                                                                                                                                   Ma.
Local s.
790;
                                                                                                                                 Query Match
                                                                                                                                                                    Matches
                                                                                             ORIGIN
```

day old"

/tissue_type="coleoptile" /dev_stage="coleoptile, 1 /lab_host="DH10B"

clone lib="HH"

/organism="Hordeum vulgare" /mol type="mRNA" /cultivar="Sloop" /db_xref="GAB1:555198" /db_xref="GAB1:555198" /clone="HH04A08"

0.00

Location/Qualifiers

1. 689

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     330
                                                                                                                                                                                                                                                               630
                                                                                                                                                                                                                                                                                                          GTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTT 140
                                                                                                                                                                                                                                                                                                                                                     570
                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                          510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        270
/note="Vector: pSPORT; Site 1: SalI (5-end of cDNA); Site 2: NotI (3-end of cDNA); Due to the cloning system used blue/white selection for recombinants is not 100 reliable. Average insert size is 1.3 kb."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGCCGATTAAATCTCGCCCCGATCAACTGGGTGCCAGCGTGGTGGTGTTCTCGTTGGTAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                            509 GCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACAACAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  regrigerearregegrigecacerecagneregecerecacececececaarrere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATCTTCTCGCGCAACGGGTCGTCGT
                                                                                                                                                                                                                         AAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAAT
                                                                                                                                                                                                                                                GTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTT
                                                                                                                                                                                                                                                                                                                                                                                               TCCCGCGTGGTGAACCAGGCCAGGTTTCTGCGAAAAACGCGGGAAAAAGTGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGATGCCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAGCGGCGAAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGCCGATTAAATCTCGCCCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGT
                                                                                                                                                                                 Gaps
                                                                                                                                                                               ;
0
                                                                                                                                      Length 689;
                                                                                                                                                                            3; Indels
                                                                                                                                  20.8%; Score 684.8; DB 6; 99.6%; Pred. No. 1.7e-191; ive 0; Mismatches 3;
                                                                                                                                                                               686; Conservative
                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

ø

390

293

570

630

233

ઠ g ઠે ឧ ò a ò g ò පු

```
AY080106
AY080106 Scripps Pier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p3G6L, genomic survey
                                                                                                                                                                             TGGCGTTGCCACTCCAGTCTGGCCCTGCAC-GCGCCGTCGCAAATTGTCGCGGCGATTA 330
                                                                                                             GCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTGAT 271
                                                                                                                                   GCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTGAT 473
          652 ACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTTCCCGCGTGGTG 593
                                                                                                                                                                                                  TCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCA 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     232 CGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTCTCCCATG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGACGGTACGCGACTGGGCGTGGACTGGTCGCATTGGGTCACCAGCAATCGCGC 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Viruses; environmental samples.
I (bases 1 to 710)
Breitbart, M., Salamon, P., Andresen, B., Mahaffy, J.M., Segall, A.M., Mead, D., Azam, F. and Rohwer, F. Genomic analysis of uncultured marine viral communities
Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14255-14255 (2002)
                                                                     592 AACCAGCCAGCCACGTTTCTGCGAAAACGCGGGAAAAAGTGGAAGCGGCGTTGGAGTGCGAAGCGGGGA
                                                                                                                                                                                                                                                331 AATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAACGAAGCGGCG
                                                                                                                                                                                                                                                                                                                                       511 CGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     571 AAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        691 ATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAG 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    52 ATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    organism="uncultured marine virus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Rohwer F
Biology Dept.
San Diego State University
5500 Campanile Dr, San Diego, CA 92102,
Tel: 6195941336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fax: 619595676
Email: forest@sunstroke.sdsu.edu
Class: shotgun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AY080106
AY080106.1 GI:24745302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           uncultured marine virus uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12384570
                                                                                                                                                                             272
                                                                                                             212
                                                                                                                                             532
                                                                                                                                                                                                               472
                                                                                                                                                                                                                                                                                                                  391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     172
                                                                                                                                                                                                                                                                                                                                                  352
                                                                                                                                                                                                                                                                                                                                                                                                                  292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      631
                                                                                                                                                                                                                                                                                                                                                                                  451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 8
AY080106
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                   셤
                                        ò
                                                                                                          à
                                                                                                                                      유
                                                                                                                                                                  ò
                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                     8
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                         AL038548 712 bp mRNA linear EST 04-SEP-2003 DKFZp566E0346_r1 566 (synonym: hfkd2) Homo sapiens cDNA clone DKFZp566E0346_5', mRNA sequence.
                     560
                                                                                      209 ACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGAGACACCCATCAACGTATTTTT 150
                                                                                                                                           620
                                                                                                                                                                                                    'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This is the 5' sequence of the close insert Close from S. Wiemann, Molecular Genome Analysis, German Cancer Research Center (GMFZ); Email s. wiemannedkfz- heidelberg-de; sequenced by MediGenomix (Martinsried/Germany) within the cDNA sequencing consortium of the German Genome Project. No si sequence
                                                                                                                                                                          90
                                                                                                                                                                                                                                           30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93 ACGITATACGAIGTCGCAGAGIAIGCCGGTGCTCTIAICAGACCGITTCCCGCGTGGTG 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 712)
Ottenwaelder, B., Obermaier, B., Mewes, H.W., Gassenhuber, J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92
avaitable.
This clone (DKFZp566E0346) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin- Charlottenburg, GERMANY; Email: clone@rzpd.de.
Location/Qualifiers
                                                                 501 ACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGGACACCCATCAACAGTATTATT
                                                                                                                                      TTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCCATTGGGTCACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAATGTGAAACCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
| Amol Lype="mRNA"
| Ab_xref="Laxon:9606"
| Clone="DKPZp566E0346"
| Lissue Lype="kidney"
| Action="fetal"
| Alab_host="K1-2blue"
| Clone="Lis="566" (synonym: hfkd2)"
| Clone=lib="566" (synonym: hfkd2)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ..
7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 712;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
20.5%; Score 676.4; DB 1;
Best Local Similarity 99.6%; Pred. No. 5.3e-189;
Matches 699; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                       TGGCATAAATATCTCACTCGCAATCAAAT 709
                                                                                                                                                                                                                                                                                       (Ottenwaelder, et al.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          AL038548.1 GI:5407738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (1999)
Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wiemann, S.
EST (Ottenw
                                   269
                                                                                                                                    261
   441
                                                                                                                                                                                                      621
                                                                                                                                                                                                                                                                       681
                                                                                                                                                                                                                                                                                                      53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33
                                                                                                                                                                                                                                                                                                                                                       RESULT 7
AL038548/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
```

셤 ઠે

8.

```
/organism="Homo Bapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="DKFZp4341102"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /tissue_type="testis"
                                                                                                                                                                       EST (Ansorge, Benes, et al.)
Unpublished (1999)
                                         AL044483.1 GI:5432701
                                                                        Homo sapiens (human)
                                                                                                                               (bases 1 to 660)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       659; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                  099. .1
                                                                                                                                                                                                   Contact: MIPS
MIPS
                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                             Wiemann,S.
                                AL044483
                                                           EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local
Matches 65
                                                                                                                                                                                                                                                                                                                                                                                                          source
                            ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
 DEFINITION
                                                                                                                                                                       TITLE
JOURNAL
COMMENT
                                                                                                                               REFERENCE
                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1059
                                                                                                                                                                                                                                                                          ä
                                                                                                                                                                                                                                                                                                     459
                                                                                                                                                                                                                                                                                                                                                            519
                                                                                                                                                                                                                                                                                                                                                                                                                  579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           999
                                                                                                                                                                                                                                                                                                                                                                          TICTIGATGTCTCTGACCAGCACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTA 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               307
                                                                    /note="Marine viruses were isolated from 200 liters of surface seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by randomly shearing the total marine viral community DNA, end-repairing, ligating dsDNA linkers to the ends, and amplifying the fragments using Vent DNA polymerase. The resulting fragments were ligated into the pSMART vector and electroporated into MC12 cells (Lucigen; Middleton,
                                                                                                                                                                                                                                                                                                                              67
/mol_type="genomic DNA"
/db_xref="teaxon:186617"
/clone="gIO5]p3G6L"
/clone_lib="Scripps Pier (La Jolla, CA) uncultured virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGACTGGGCGTGGAGCATCTGGTTGGGTCACCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           580 CGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    308 GCAATCAAATTCAGCCGATAGCGGAAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            488 ATATCTCGGTAGTGGGATACGACATACCGAAGACAGCTCATGTTATATCCCGCCGTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1000 TCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAA
                                                                                                                                                                                                                                                                                                                               Grecrecaecegrecaetarcricicececaacecercagegecrearcarraacrare
                                                                                                                                                                                                                                                                                                                                                            TTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          700 GCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arcadarddcccriddccccaardccccarraccdacrccdcccridcccrriccridcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    548 CCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTCTCAGGGCCAGGCGGTGAAGGGCAATCANCTGTTGCCCCGTCTCACTGGTGAAAA-AA
                                                                                                                                                                                                                                                                                                     400 GTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATC
                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                              Length 710
                                                                                                                                                                                                                                            Score 676; DB 8; Length 71
Pred. No. 6.9e-189;
0; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAACCACCTGGCGCCCAATACGCAAACCGCCTCTCCC 1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAACCACCCTGGCGCCCAATACGCAAACCGNCTTCCC
                                                                                                                                                                                                                                            20.5%;
                                                         community,
                                                                                                                                                                                                                                        Query Match
Best Local Similarity 98.9°
Matches 690; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   640 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             368
                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                            99
                                                                                                                                                                                                                                                                                                                                                                                      68
                                                                                                                                                                                                                                                                                                                                                                                                                  520
                                                                                                                                                                                                                                                                                                                                                                                                                                               128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 9
AL044483/c
LOCUS
                                                                                                                                                                                                                  DRIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       è
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ठ
```

ä 144 601 204 541 264 481 324 421 384 361 444 504 241 9 GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGGGTCAGTGGGC 301 Euteleostomi; Ansorge, W., Benes, V., Krieger, S., Mewes, H.W., Gassenhuber, J. and Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany This is the 3' sequence of the clone insert Clone from S. Wiemann, Molecular Genome Analysis, German Cancer Research Center (DKFZ); Email 8:wiemann@dkfz-heidelberg.de; sequenced by RWBL (European Molecular Biology Laboratories, Heidelberg/Germany) within the cDNA sequencing consortium of the German Genome Project. No rI sequence available.
This clone (DKFZp4341102) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERWANY; Email: clone@rzpd.de.
Location/Qualifiers 145 GCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAAACGCGGGAAAAAGTGGAAGCGGCGA 540 TGGCGGAGCTGAATTACATTCCCAACCGCGCGCAACAACAACAGGGGGGAACAGTCGT Techearrescencerceaerressecrisses CGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAACGAA 85 AACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTTATCAGACCGTTTCCC 560 AACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCC TGGCGGGGGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGT 480 recrearrescerreccacerceagrerescerececececerescanarrereses CGATTAAATCTCGCGCCGATCAACTGGGTGCTGCTGGTGTCGTGGTAGAACGAA GCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGCC Gaps /dev stage="adult" /lab_host="DH10B" /clone_lib="434 (synonym: htes3)" /note="Vector: pSport1; Site_1: Not1; Site_2: Sal1" DKFZp4341102 s1 434 (synonym: htes3) Homo sapiens cDNA clone DKFZp4341102-3', mRNA sequence. Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Butelt Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo 1; 19.6%; Score 647.4; DB 1; Length 660; 99.7%; Pred. No. 2.2e-180; ive 0; Mismatches 1; Indels 1. a

564

505 ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTTTTCT

ò

EST 04-SEP-2003

linear

mRNA

ďq 099

AL044483

유 à

셤 ò

ò 요 ò

```
CB863814 62-2003
HH07B20y HH Hordeum vulgare cDNA clone HH07B20 3-PRIME, mRNA
                                                           210 GAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTG 269
                                                                                                                                                                                                   389
                                                                                                                                                                                                                                282
                                                                                                                                                                                                                                                                  449
           402
                                                                                                                            270 ATTGGCGTIGCCACCTCCAGTCTGGCCCCTGCACGCCCGTCGCAAATTGTCGCGGCGATT 329
                                                                                                                                                                                                                                                                            509
                                                                                                                                                                                                                                                                                                                                                                                            569
                                                                                                                                                                                                                                                                                                                                                                                                                            102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hordeum vulgare
Hordeum vulgare
Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, Liliopsida, Poales, Poaceae,
Pooideae, Triticeae, Hordeum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     330 AAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTCGATGGTAGAACGAAGCGGC
                                                                                                                                                                                                                       341 AAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAACGAAGCGGC
                                                                                                                                                                                                                                                        GTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATC
                                                                                                                                                                                                                                                                                                                        GAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCG
                                                                                                                                                                                                                                                                                                                                                                                     CCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTCTCCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                  161 ccesceriarircricarercreaeceaecacearcaeaeararrarrircrecear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Varshney, R.K., Zhang, H., Burton, R., Stein, N., Langridge, P. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Barley ESTB from coleoptile tissue Unpublished (2003) Unpublished (2003) Contact: Stein Nils Molecular Markers Group, Department Genbank Institute of Plant Genetics and Crop Plant Research (IPK) Correnser. 3, 06466, Gatersleben, Germany
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fax: 039482-5595
Email: stein@ipk-gatersleben.de
Insert Length: 624 Std Error: 0.00
Plate: 7 row: B column: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1. .624
/organism="Hordeum vulgare"
/mol_type="mRNA"
/cultivar="Sloop"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  db_xref="taxon:4513"
/clone="HH07B20"
/tissue_type="coleoptile"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="GABI:555471"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CB863814.1 GI:30058373
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seq primer: SP6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Graner, A
                                                                                                                                                                                                                                                                                                                                                                                     210
                                                                                                                                                            401
                                                                                                                                                                                                                                                                                                                      450
                                                                                                                                                                                                                                                         390
                                                                                                                                                                                                                                                                                                                                                                                                                                                    570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CB863814/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                      ò
                                                                                      g
                                                                                                                        ò
                                                                                                                                                  셤
                                                                                                                                                                                                                      g
                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          원
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                  DUCUSO'A 641 bp mRNA linear EST 29-SEP-2003 BJ063872 NIBB Mochli normalized Xenopus tailbud library Xenopus BJ063872 BJ063872
624
                                                                   625 redecertringedesectentringererereseses reservations 684
                                                                                                                                                                               685 ATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAAGGCGACTCGAGTG 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                      582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90 GTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTATCAGACCGTTTCCCGCGTG 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGAACCAGGCCAGGCTTTCTGCGAAAACGCGGGAAAAAGTGGAAGCGGCGATGGCG 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Ambhlbia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae; Xenopodinae, Xenopus, Xenopus.

1 (bases 1 to 641)
                                                                                                                                                                                                   61 ATAMATATCTCACTCGCAATCAACTGCGGAAGGGGAAGGGGACTGGAGTG 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: tshini@genes.nig.ac.jp
The information of this clone is available through the following
                                               CCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGAATGTGAAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /tissue_type="whole embryo"
/dev_stage="stage 25"
/clone_lib="NIBB Mochii normalized Xenopus tailbud
library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kitayama, A., Terasaka, C., Mochii, M., Ueno, N., Shin-i, T. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 641;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Expressed genes in X. laevis embryo Unpublished (2001) Contact: Tadasu Shin-i Center For Genetic Resource Information National Institute of Genetics 1111 Yata, Mishima, Shizuoka 411-8540, Japan Tel: 81-559-81-6856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
19.4%; Score 641; DB 4; Le Best Local Similarity 100.0%; Pred. No. 1.7e-178; Matches 641; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Xenopus laevis (African clawed frog)
Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .641
/organism="Xenopus laevis"
/mol_type="mRNA"
/db xref="taxon:8355"
/clone="XL077k02"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               http://xenopus.nibb.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                         BJ063872.1 GI:17471074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fax: 81-559-81-6855
Email: tshini@genes
                                                                                                                                                                                                                                             745 C 745
                                                  565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30
                                                                                                                                                                                                                                                                                                                          RESULT 10
BJ063872/c
                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                          LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
```

ORIGIN

g ઠે a à

Query

g

ઠે

g

8

ద

ઠે

셤

õ

ઠ

a

요 δ

ઠે

요

ઠે

ORIGIN

```
1048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1168
                                                          Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 3' sequence of the clone insert
Clone from S. Wiemman, Molecular Genome Analysis, German Cancer
Research Center (DKTZ); sequenced by Qiagen within the cDNA
sequencing consortium of the German Genome Project. r1 sequence
also available.
This clone is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERWANY; Email: clone@rzpd.de.
Location/Qualifiers
...794
//crganism=HGMOS sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGTGAAAAGAAAACCACCCTGGCGCCCAATACGCAAAACCGCCTCTCCCCGCGCGTTGGC 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            735 GCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGCGCGCGTCTG-GTCTGGCTGGCTGGCTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGGCCCATTACCGAGTCCGGGCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGTTGGTGGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              376 CTTGCTGCAACTCTCTCAGGGCCAGGGGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                316 GGTGAAAAGAAAAACCCCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGGGCGGTTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGATTCATTAATGCAGCTGGCACGACAGGTTTCCCCGACTGGAAAGCGGGCAGTGAGCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGGAAGGCGACTGGAGTGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      676 ATAICICACICGCAAICAAATICAGCCGAIAGCGGAACGGGAAGGCGACIGGAGIGCCAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Greedertricaacaaaccarecaarecreaarecreacecreacecrecrecrecre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCGCCGTTAACCACCATCAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                    /dev_stāgé="adult"
| hab_host="bH108"
|clone lib="44 (synonym: htes3)"
|/note="vector: pSport1; Site_1: Not1; Site_2: Sal1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .;
7
                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 794;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGCAATTAATGTGAGTTAGCTCACTCATTAGGCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                      18.5%; Score 612; DB 1; 1 99.7%; Pred. No. 7.6e-170; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                    /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="DKF2p434B075"
/tissue_type="testis"
     et al.)
   EST (Duesterhoeft,
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         634; Conservative
                                     Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               989
                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
 TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 04-SEP-2003
                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                       182
                                                                                                                                                                                                                                                                                                                                                                                                                                                      380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        140
                                                                                                                                                                                                                                                   560
                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                      500
                                                                                                                                                                                                                                                                                                                                                                                       440
                                                                                                                                                                                                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
I (Dases 1 to 794)
Duesterhoeft,A., Lauber,J., Mewes,H.W., Gassenhuber,J. and Wiemann,S.
                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
/dev_stage="coleoptile, 1 day old"
/lab.host="DH10B"
/clome lib="HH"
/note="Vector: pSPORT; Site_1: Sall (5-end of cDNA);
Site_2: NotI (3-end of cDNA); bue to the cloning system used blue/white selection for recombinants is not 100 % reliable. Average insert size is 1.3 kb."
                                                                                                                                                                                                                                                                                                      CAATTCAGGGTGGAATGTGAAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                      CAACTGGGGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAAACTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGGTGTCGATGGTAGAACGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCGCGCAACGCGTCAGTGGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                     GTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCCTGTAAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                    ACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                     CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALO45353
DKFZp434B075_s1 434 (synonym: htes3) Homo sapiens cDNA clone
                                                                                                                                                                                   ;
0
                                                                                                                                                  Score 615.8; DB 6; Length 624; Pred. No. 5.3e-171; 0; Mismatches 2; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTCGCATTGGGTCACCAGC 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL045353.1 GI:5433506
                                                                                                                                                18.7%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens (human)
                                                                                                                                                                  Best Local Similarity 99.7
Matches 617; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                   559
                                                                                                                                                                                                                                                                                                                                                                                                                                                      439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         543
                                                                                                                                                                                                                    m
                                                                                                                                                                                                                                                    619
                                                                                                                                                                                                                                                                                   63
                                                                                                                                                                                                                                                                                                                                                     123
                                                                                                                                                                                                                                                                                                                                                                                    499
                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19
                                                                                                                                                    Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AL045353/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
```

유

셤

ò

g

셤

8

ò

ä

```
sequence.
AY080094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12384570
                                                                                                                                                                                                                                                                                                                                                                                                GSS.
                                                             2474
                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                  AY080094/c
                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                    RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                  LOCUS
                       Q
                                                          ð
                                                                                        a
                                                                                                                  ð
                                                                                                                                                   g
                                                                                                                                                                                   ò
                                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                         GSS 09-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2114
                             CL655575 172 bp DNA linear GSS 09-JUL-200
PRIO124a C01 - PRI0124a.B21 (752) Mixed stage fosmid library of P.
pacificus var. California Pristionchus pacificus genomic, genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2115 GGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTACTCCATCGCAGAAGC 2174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2175 TGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGGGCATGGTCCAACAT 2234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2235 CGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTCAAGGGTCAACCATC 2294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGTCCGAACAAAGAGCT 2354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2355 GGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGATGAAGGTCTGGAAGCGGTTAA-TA 2413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               752 ircaccredececreariecrecreaegegerrarecerreaerareaaaaegeeaa 693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  392 GGCGAAAGAGTTCCTCGAAAACTATCTGCTGATGATGAAGGTCTGGAAGCGGTTAATTA 333
                                                                                                                                                                       Eukaryota; Metazoa; Nematoda; Chromadorea; Diplogasterida;
Neodiplogasteridae; Pristionchus.
1 (bases 1 to 752)
Srinivasan, J., Otto, G.W., Kahlow, U., Geisler, R. and Sommer, R.J. AppaDB: an AcedB database for the nematode satellite organism Pristionchus pacificus
L Nucleic Acids Res. 32 (1), D421-D422 (2004)
Conteact: Sommer RJ
Evolutionary Biology
Max-Planck-Institute for Developmental Biology
Spemannstr. 37-39, Tuebingen D-72076, Germany
Tel: 00497071601371
Fax: 00497071601378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:54126"
/clone_lib="Mixed stage fosmid library of P. pacificus
var. California"
                                                                                                                                                                                                                                Sommer, R.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1996 TTCACCTGGCCGCTGATTGCTGCTGAC-GGGGGTTATGCGTTCAAGTATGAAAACGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2055 GTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCGGGGTCTGACCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               692 GTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGGAAGCGGGTCTGACCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                         end
                                                                                                                                                                                                                                                                                                                                                                               Email: ralf.sommer@tuebingen.mpg.de
This library was generated at Caltech, Pasadena, USA and
sequenced at Vancouver, Canada.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
18.3%; Score 603; DB 9; Length 752;
Best Local Similarity 98.9%; Pred. No. 3.6e-167;
Matches 628; Conservative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           var. California"
/note="Vector: pEpifos-5 Fosmid vector"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. 752
Organism="Prietionchus pacificus"
/mol_type="genomic DNA"
/strain="california"
                                                                                                                                                                                                                                                                                                                                                                                                                          Seq primer: T7
Class: fosmid ends.
Location/Qualifiers
                                                                                                               CL655575.1 GI:50134897
                                                                                                                                         Pristionchus pacificus
Pristionchus pacificus
                                                                              survey sequence.
CL655575
                                                                                                                              GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           632
                                                                                                                                        SOURCE
ORGANISM
                                 LOCUS
DEFINITION
                CL655575/c
                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                    JOURNAL
COMMENT
                                                                                              ACCESSION
RESULT 13
                                                                                                            VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    윰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
2533
2414 AAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAGTTGGCGAAAGATC 2473
                                                                                                                                                                                                                                                                                                                                                                                                     2534 AGAIGICCGCTTICIGGIAIGCCGIGCGIACIGCGGIGAICAACGCCGCCAGCGGICGIC 2593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSS 06-NOV-2002
                                                          1..608 ... According to the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Surface Seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by randomly shearing the total marine viral community DNA, end-repairing, ligating dsDNA linkers to the ends, and amplifying the fragments using Vent DNA polymerase. The resulting fragments were ligated into the pSMART vector and electroporated into MC12 cells (Lucigen; Middleton, WI)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   287 CAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCCGCCGATCA 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Breitbart, M., Salamon, P., Andresen, B., Mahaffy, J.M., Segall, A.M., Mead, D., Azam, F. and Rohwer, F.
Mead, D., Azam, F. and Rohwer, F.
Proc. analysis of uncultured marine viral communities
Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14250-14255 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AY080094
AY080094 Scripps Pier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p3D4L, genomic survey
                                                                                                                                                                                                CACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATGCCGAACATCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="Marine viruses were isolated from 200 liters of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17.9%; Score 589.8; DB 8; Length 608; 99.7%; Pred. No. 2.8e-163; Live 0; Mismatches 2; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2594 AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 2628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      152 AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Rohwer F
Biology Dept.
San Diego State University
5500 Campanile Dr. San Diego, CA 92102,
Tel: 6195941336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fax: 619595676
Email: forest@sunstroke.sdsu.edu
Class: shotgun.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Viruses; environmental samples.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AY080094.1 GI:24745276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to 608)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 99.7°
Matches 591; Conservative
```

ò 셤 8 &

```
completed: August 3, 2005, 02:02:54
ne : 6745.2 secs
                                                                                                                    587;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  937
                                                                                                                                                                                                                                                                             469
                                                                                                                                                                                                                                                                                                      697
                                                                                                                                                                                                                                                                                                                                409
                                                                                                                                                                                                                                                                                                                                                          757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                877
                                                                                                                                             517
                                                                                                                                                                                               577
                                                                                                                                                                                                                                                   637
                                                                                           Query Match
Best Local &
Matches 58
                                                                                            Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    time
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Search
                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Job
                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                     g
                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                             임
                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                               ò
                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              589 bp mRNA linear EST 04-SEP-2003
DKF2p544C157 r1 564 (synonym: hfbr2) Homo sapiens cDNA clone
AL037742
    406
                             489
                                                      466
                                                                              429
                                                                                                        526
                                                                                                                                  369
                                                                                                                                                          586
                                                                                                                                                                                   309
                                                                                                                                                                                                             646
                                                                                                                                                                                                                                     249
                                                                                                                                                                                                                                                               706
                                                                                                                                                                                                                                                                                          189
                                                                                                                                                                                                                                                                                                                   766
                                                                                                                                                                                                                                                                                                                                             129
                                                                                                                                                                                                                                                                                                                                                                      826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ltd.,
                                                                                                                                                                                                                                                                                                                                                                                                69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKFS); Emails swiemann@dkfz-heidelberg.de;
sequenced by GBF (National Research Centre for Biotechnology Ltc
Braunschweig/Germany) within the CDNA sequencing consortium of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No si sequence available.

This clone (DKFZp564C157) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERNANY; Email: clone@rzpd.de.
Location/Qualifiers
                                                     AAGTTCTGTCTCGGCGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCA
                                                                                                                                                                                                                                                                             AATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTTCAACAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 (bases 1 to 589)
Bloecker, H., Boecher, M., Brandt, P., Mewes, H.W., Gassenhuber, J.
GGGCGTGGAGCATCTGGTTCGCATTGGGTCACCACCAAATCGCCCTGTTAGCGGGCCCATT
                                                                                                                                                                                                                                                                                                                    AATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCCATGTCCGGTTTTCAACAAAC
                                                                                                                                                                                                                                                                                                                                                                      CATGCAAATGCTGAATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGAT
                                                                                                                                                                                                                                                                                                                                                                                    CATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGCTGCCAACGATCAGAT
                                                                                                       TGACCAGGATGCCATTGCTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGA
                                                                                                                                                          TGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACT
                                                                                                                                                                                                             GGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGCCCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                          879
                                                                                                                                                                                                                                                                                                                                                                                                                       1. .589
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="DKFZp564C157"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST (Bloecker, et al.)
Unpublished (1999)
Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AL037742.1 GI:5407088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         German Genome Projec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wiemann,S.
EST (Bloec
                                                                                                                                                                                                                                                               647
                                                                                                                                                                                                                                                                                         248
                                                                                                                                                         527
                                                                                                                                                                                                                                     308
                                                                                                                                                                                                                                                                                                                   707
                                                                                                                                                                                                                                                                                                                                             188
                                                                                                                                                                                                                                                                                                                                                                                                128
                                                                                                                                 428
                                                                                                                                                                                                             587
                                                                                                                                                                                                                                                                                                                                                                      167
                                                                                                        467
                                                                                                                                                                                   368
                                                                                                                                                                                                                                                                                                                                                                                                                          827
                                                                                                                                                                                                                                                                                                                                                                                                                                                 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 15
AL037742/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
```

```
1056
                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    170
                                                                                                                                                                            576
                                                                                                                                                                                                           530
                                                                                                                                                                                                                                            636
                                                                                                                                                                                                                                                                          470
                                                                                                                                                                                                                                                                                                          969
                                                                                                                                                                                                                                                                                                                                          410
                                                                                                                                                                                                                                                                                                                                                                                                        350
                                                                                                                                                                                                                                                                                                                                                                                                                                        816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                           349 TICRACAANCCAIGCAAATGCIGAAIGAGGCAICGTICCCACIGCGAIGCIGGTIGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAG
                                                                                                                                                                                                                                                           CTCGCAATCAAATTCAGCCGATAGCGGAAACGGGGAAGGCGACTGGATGCCATGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        817 ACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACTCTCTCAGGGCGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAA
                                                                                                                                                                              TATITICITGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACG
                                                                                                                                                                                                                                                                                                                                                                          CTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    229 CGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGC
                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                Length 589;
/tissue_type="brain"
/dev stage="fetal"
/lab_host="X1-2blue"
/clone lib="564 (symonym: hfbr2)"
/note="Vector: pAMP1; Site_1: Not1; Site_2:
                                                                                                                                              Indels
                                                                                                              17.8%; Score 586.4; DB 1;
99.7%; Pred. No. 2.8e-162;
cive 0; Mismatches 2;
                                                                                                                                                Conservative
                                                                                                                               Similarity
```

g

g ઠે

ઠે g ે g

ઠે ద ઠે 요 ò

δ

THIS PAGE BLANK (USPTO)

Aug

Wed

Run on:

```
AX768200 Sequence
AX768202 Sequence
AX768203 Sequence
AX71505 Sequence
AX2156 Sequence
AX219688 Expressio
AX219688 Expressio
AX219689 Expressio
AX219689 Expressio
AX219689 Expressio
AX219682 Shuttle e
AX219683 Shuttle e
AX219683 Shuttle e
AX219684 Shuttle e
AX219684 Shuttle e
AX219684 Shuttle e
AX219684 Shuttle e
AX219684 Shuttle e
AX219684 Shuttle e
AX219684 Shuttle e
AX219684 Skytessio
AX302759 Expressio
AX302759 Expressio
AX302759 Expressio
AX3083836 Sequence
                                                                                                                                                                                                                                                   AF050464 Expressio
AY243506 Cloning v
CQ846977 Sequence
AX478528 Sequence
AB116367 Expressio
E13740 DNA sequenc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           °,
                                                                                                                                                                                                                                                                                                                                                                                                                                           PAT 30-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                    AR373251 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTTCGCGGTATGGCATGATAGCGCCCGGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 6; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              °,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         synthetic construct
synthetic construct
other sequences; artificial sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 3300; 100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                             ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 17 from Patent WO0152620.
 AX768200
AX768202
AX768203
AF140577
AX431576
                                                                              AY219686
AY219688
                                                                                                                                 AY219682
AY219683
AY219684
                                                                                                                                                                                     AF177932
AY302759
                                                                                                                                                                                                                                                                   AY243506
CQ846977
                                                                                                                                                                                                                                                                                                          AB116367
E13740
                                                                                                                                                                                                                           AR493834
AR493835
                                                                                                        AY21,9689
                                                                                                                                                                         AF177933
                                                                                                                                                                                                                AY289542
                                                                 AY219685
                                                                                                                      AY219687
                                                                                                                                                                                                                                                      AF050464
                                                                                                                                                                                                                                                                                                                                     AR373251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AX202429.1 GI:15392177
                                       Best Local Similarity 100.
Matches 3300; Conservative
  1417.6
1417.6
1417.6
                                                                                                                               1417.6
                                                                                                                                            1417.6
                                                                                                                                                                      1400.8
                                                                                                                                                                                                 1400.8
1400.8
                                                                                                                                                                                                                           1362
                                                                                                                                                                                                                                                    1329.2
1238.4
1238.4
1237.2
                                                                                                                    1417.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 1
AX202429
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF097412 Expressio
AX378208 Sequence
AF031088 Shuttle v
AF031813 Expressio
CQ794769 Sequence
CQ846980 Sequence
AX768201 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AX202430 Sequence
AX202427 Sequence
AX202427 Sequence
AX284144 Sequence
AX172306 Sequence
AX177310 Sequence
AX37751 Sequence
AX37751 Sequence
AX377532 Sequence
                                                                                                       (without alignments)
17238.272 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AX202429 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                       1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
                                                                                          July 31, 2005, 20:22:50 ; Search time 9276 Seconds
               GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                        4708233 segs, 24227607955 residues
                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AF031088
AF031813
CQ794769
CQ846980
AX768201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AX377532
AF097412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AX202426
AX202427
AX202428
AX172306
AX377531
AX377531
AX377531
AX377531
AX377531
AX377531
AX377531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AX378208
                                                                                                                                                                                                IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                            seq length: 0
seq length: 200000000
                                                                                                                                            US-09-765-555B-17
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                  99b htg: *
99b htg: *
99b on: *
99b ph: *
99b ph: *
99b pr: *
99b pr: *
99b pr: *
99b pr: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  997.7
997.7
997.7
997.7
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
997.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
977.9
                                                                                                                                                                                                                                                                                                                                                                                                                                        Perfect score:
                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
                                                                                                                                                                                                                                                                                           Minimum DB Maximum DB M
                                                                OM nucleic
                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                       Database
```

Result Š.

1251 TOAGCOAGCCATCOGANGCTGTGGANATGTTTTGCGCCGAACACACACACATACGTT 1380
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
13

AUTHORS Barbas, C.F., Stege, J.T., Guan, X. and Dalmia, B. TITLE Methods and compositions to modulate expression in plants JOURNAL Patent: WO 0152620-4 18 26-JUL-2001; The Scripps Research Institute (US); SYNGENTA AGRICULTURAL DISCOVERY, INC. (CA) FEATURES Location/Qualifiers 1330 Accepted Lype="unassigned DNA" //mole="unassigned DNA" //db xref="taxon:32630" //note="parial sequence of pMal-Ap3 and zinc finger protein ZFPAp3"	Query Match Query Match 98.0%; Score 3232.8; DB 6; Length 3300; Best Local Similarity 98.7%; Pred. No. 0; Matches 3258; Conservative 0; Mismatches 42; Indels 0; Gaps	Oy 1 CGGACACCATGGATGGTGCAAAACCTTTCGCGGTATGGTAGGCCCCGGAAGAGA 80 1 CCGACACCATCGAATGGTGCAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60 Db 61 GTCAATTCAGGGTGGTGAATGTGAAACCTTATACGATGTCGCAGGAGTTGCCG 120 Db 61 GTCAATTCAGGGTGGTGAATGTGAAACCTTATACGATGTCGCAGAGTATGCCG 120	121 GTGTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCA	181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 2 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGCGTTTGCCACCTCCAGTCTGGCCCTGC 3 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC 3	Oy 301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATTCTCGGCCGATCAACGGGGGGTGCCGGGGGGGG	421 TICTCGCCACACGCGTCAGTGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCAGGATGCCAGGATGCCAGGATGCCAGGATGCCAGGATGCCAGGATGCCAGGATGCCAGATGCCAGATGCCAACGCTGATGCCATAACTATCCGCTGGATGACCAGATGCCAACGATGCCAACGATGCCAAGGATGCCAGATGCCAGATGTCTTGATGTTTTTTTT	Db 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540 Qy 541 CACCCATCAACAGTATTATTTCTCCCATGAAGACGGACTGGGGGTGCTGGGGGGGG	OY 601 TGGTCGCATTGGGTCACCAGCAAATCGCGGTGTTAGCGGGCCCATTAAGTTCTGTGTCGG 660	0.5 0.5
Qy 2401 GAAGCGGTAATAAAAACCGAACCGCTGGGCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 Db 2401 GAAGCGGTTAATAAAAACAAAACCGCTGGGTGCCGTAGGCCTGAAGTCTTACGAGGAAGAG 2460 CA 2461 TTGGCGAAAGATCACACTATGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 CA 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 CA 2521 CCGAACATCCCGCAATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 CA 2521 CCGAACATCCCGCAATTGCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580 CA 2521 CCGAACATCCCGCAAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	QY 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 Db 2581 GCCAGCGGTCGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 QY 2641 AACAACAACAACAACAACAACAACAACAACAACAACAAC	2641 AACAACAACAATAACAATAACAACACTGGGATTCAAGAGGAAGGA	Qy 2761 COGGNATGTGGTAACTCTTCAGCCAGAGCAGCTGCTGGTGGGCCACCAGCTACCAC 2820 Db 2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCGCTCCCTGGTGCGCCACCAGCGTACCCAC 2820 Qy 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGGGCAAATCTTTTAGCCAGAGCAGCAGCACCACCAGAGCAGCAGCACACACA	Qy 2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGCGC 2940 Db 2881 CTGGTGCGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940 Qy 2941 AAGTCTTTCAGTGATTGTCGTGATGTCTGCGAGGCACCAACGAACG	Db 2941 AAGTCTTTCAGTGTTCTTGTGAGTCTTTTTTTTTTTTTT	3061 CAGGGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC	3121 GGAGGGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC 1181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC 3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC	Oy 3241 ACCGGTMAAAAACTAGTGGCCGGCCGCCAGTACCGTACGAGGTTCCGGACTACGGT 3300 	RESULT 2

361 TGGTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 420 361 TGGTGGTGTCGATGGTAGAACGAAGCGGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 420 421 TTCTCGGCAACGCGTCGAGTGATCATTAACTATCCGCTGGATGCAA 480 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGCCA 480 481 TTGCTGTGGAAGCTCAGTGGGCTGATCATTAACTATCCGCTGGATGCCAA 480 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTAATTTCTTGATGTCTCTGACCAGA 540 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTAATTTCTTGATGTCTCTGACCAGA 540 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTAATTTCTTGATGTCTCTGACCAGA 540 541 CACCCATCAACGTATTATTTTCTCCCATGAAGACGGTACGCGCTGGAGCATC 600 541 CACCCATCAACGTTATTTTCTCCCATGAAGACGGTACGCGCTGGAGCATC 600 601 TGGTCGCATTGGGTCACCAGAAATCGCGCTGTTAAGTTCTTCTCGG 660 601 TGGTCGCATTGGGTCACCAGAAATCGCGCTGTTAAGTTCTTCTCGG 660 601 TGGTCGCATTGGGTCACCAGAAATCGCGCTGTTAAGTTCTTCTCGG 660	CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG	841 TGGGGCCATTACCGAGTCCGGGCTGCGGTGGTGCGGATATCTCGGTAGTGGGATACG 900 841 TGGGCGCATTACCGAGGCTGCGGTTGGTGCGGATATCTCGGTAGTGGGGATACG 900 841 TGGGCGCCATTACCGAGTCGGGCTTGGTGGGATATCTCGGTAGTGGGATATCG 900 901 ACGATACCGAGTCATACTCGGCGTTAACCACCATAAACAGGATTTTC 960 901 ACGATACCGAAGACCGTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 901 ACGATACCGAAGACCAGCGTGGTGATTATATCCCGCGTTTAACACCACCATCAAACAGAGATTTTC 960 961 GCCTGCTGGGGCGAACCAGCGTGGACCGCTTGCTGCAACCACCATCAAACAGGGCGGGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGCGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGCGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGCGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGCGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGCGGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGGGGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGGCGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGGGGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGCCAACCAGGGGGGGTGA 1020 961 GCCTGCTGGGGCCAACCAGGGGGGGGGAACCAGGGGGCCAACCAGGGGCGAACACAGGGGCCAACCAGGGGGG		1141 CCCGACTGGAAAGCGGCGCAGTGAACGCAATTAATGTGGTGTTAGTCACTCAC	TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT
8 8 8 8 8 8 8 8	6 6 6 6 6	8 6 8 6 8	\$ 8 \$ 8 \$	8 6 8 6 8 6	8 8 8 8 8
	RESULT 3 AX202426 LOCUS LOCUS AX202426 LOCUS SETMITION Sequence 14 from Patent W00152620. ACCESSION AX202426. VERSION AX202426.1 GI:15392173 KEYWORDS SOURCE Synthetic construct ORGANISM synthetic construct ORGANISM Other sequences; artificial sequences. REPERENCE ANTHORS BATABAR C. F. Stede J. T. Guan X. and Dalmia B.	TITLE Methods and compositions to modulate expression in plants JOURNAL Patent: WO 0152620-A 14 26-JUL-2001; The Scripps Research Institute (US); SYNGENTA AGRICULTURAL DISCOVERY, INC. (CA) FEATURES 1. 3300 /organism="synthetic construct" // AD _type="unassigned DNA" // AD _xref="taxon:32630" /note="Partial sequence of pMal-ml and zinc finger protein ZFPml="Partial"	ORIGIN Query Match Query Match Best Local Similarity 98.4%; Score 3215.2; DB 6; Length 3300; Best Local Similarity 98.4%; Pred. No. 0; Matches 3247; Conservative 0; Mismatches 53; Indels 0; Gaps 0; Qy 1 CCGACACCATCGAAAGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAG 60	OY 61 GTCAATTCAGGGTGGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG 120	Db 181 ¢Ġ¢ĠĠĀĀĀĀĠŦĠĠĠĠĀŦĠĠ¢ĠĠĀĠĠŢĠĀŦŦĠĊŦĀŦŢĊĊŦĀĊĊĠĠĠĠĠĠĠĊĀĆ 240 Qy 241 AACAACTĠĠ¢ĠĠAACAĠŦĠĠŦĠŦŦĠĠĠŦŦĠĠĠŦĊĠĊŦĊĠŦĊŦĠĠĊĊŦĠĊ 300 L41 AACAACTĠĠ¢ĠĠĠAĀĀĀĠŦĠĠŦĠĠŦŢĠĠŦŢĠĠŢŦĠĊĊĀĊĊŢĊĠĠŦŢĠĠĊĊŦĠĊ 300 Qy 301 ACĠ¢ĠĊĠŦĊĠĊĀĀĀŦŢĠŢĠĠĠĠĀŦŢĀĀŦŢĊŦĠĠĠŢĠĠĠĠĠĠĠĠĠĠ

Decade Control	RESULT 4 AX202427 LOCUS DEFINITION Sequence 15 from Patent W00152620. AX202427 AX202427 AX202427 AX202427 AX202427 VERNORDS SOURCE ORGANISM SYNCHETIC CONSTRUCT OCHET SEQUENCES; ATTIFICIAL SALESSION AX202427.1 GI:15392175 COURCE ORGANISM SYNCHETIC CONSTRUCT OCHET SEQUENCES; ATTIFICIAL SALESSION in plants AUTHORS BATDAS, C.F., Stege, J.T., Guan, X. and Dalmia, B. AUTHORS BATDAS, C.F., Stege, J.T., Guan, X. and Dalmia, B. AUTHORS AUTHORS AUTHORS ACCESSION AX202427 AX20247 AX20247 AX20247 AX20247
	2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACCATCCACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACCATCCAACCCATCGTGAATTATGGTGTAACGGTACTGCCGCCACTTC 2280 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGTGTGTTTAACCGCCGCCGGT 2340 2341 CCGAACAAAAGACTCCTCGTTCGTTGGTGTGTTTAACCGCCGCCGGT 2400 2341 CCGAACAAAAAGACTGCTTCGTTCGTCGAAAACTATCTGCTGATGAAGGTCTG 2400 2401 GAAGCGGTTAATAAAGAACGGTGGTGGTAACTATCTGCTGATGAAGGTCTG 2400 2401 GAAGCGGTTAATAAAGAACCGCTGGGTGCCGTAACTATCTGCTGAAGATCTTACGAGGAAGA 2460 2401 GAAGCGGTTAATAAAGACCGCTGGGTGCCGTAACGCTGAAGGTCTTACGAGGAAGA 2460 2401 GAAGCGGTTAATAAAGACCGCTGGGTGCCGTAACGCCTGAAGTCTTACGAGGAAAAG 2520 2461 TTGGCGAAAAAATCCACGTTTTGCCCGCCACCATGGAAACGTCTACGAGAAATCATG 2520 2461 TTGGCGAAAAAATCACGGTTTTGCCGCCACAAAGGTCAAAATCATG 2520 2521 CCGAACAAAGATCCCCGCAATTGGCACAAAACGCCCACAAAGGTCAAAATCATG 2520 2521 CCGAACAAAGATCCCCCCACATGGAAAACGCCCAGAAAGGTCAAAACGCC 2580 2521 CCGAACAAAGATCCCCCCACATGGAAAACGCCCACAAAAGGTCAAAACCCC 2580 2521 CCGAACAAAGTTCCTGGTATGCCGCTCACTGCAAAAGGTCAAAACCCC 2580 2521 CCGAACAAAGTTCCTGCTATTCTGGTATGCCGCTCACTGCAAAAGGTCAAAACCCC 2580 2521 CCGAACAAAGTTCCTGCTATTCTGCTATTGCCGCTCAAAAGGTCAAAACCCC 2580 2521 CCGAACAAAAGTTCTTGTTTTTTTTTTTTTTTTTTTTTT

ORIGIN	ZPPm2"	qq	961 GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTGAGGGCCAGGCGGTGA 1020
Query Best Match	Query Match 97.4%; Score 3215.2; DB 6; Length 3300; Best Local Similarity 98.4%; Pred. No. 0; Matches 3247; Conservative 0; Mismatches 53; Indels 0; Gaps 0;	oy Dp	1021 AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAACCACCCTGGCGCCCCAATA 1080
è 4	TCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATGGCGCCCGGAAGAGA 60	oy qa	cgcaaaccgcctctccccgcgcgttggccgattcattaatgcagctggcacgacaggttt
중 염	61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120 	ଦ ପ	
දු පු	121 GTGTCTTATCAGACCGTTTCCCGCGTGGACCAGGCCAGCTTTCTGCGAAAA 180 	රු අ	GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTCCACCAATGCTTCTGGCG
& 8	181 CGCGGGAAAAGTGGAAGCGCGAGGCGGGGCTGAATTACATTCCCAACCGCGTGGCAC 240 181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	oy Q	TCAGGCAGCCATCGGAAGCTGTTGGTATTGCTGCAGGTCGTAAATCACTGCATTAGTTCGTAATTCGTL
& 8	241 AACAACTGGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 [S G	1321 TGTCGTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCAAACGGTT 1380
& a	ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG	ç, GP	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440
& 8	TGGTGGTGTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC	Qy Dp	1441 ATTGTGAGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500
1 & A	TTCTCGCGCAACGCGTCAGGCTGATCATTATCCGCTGGATGACCAGGATGCCA	QV Op	1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560
<u>ک</u> 8	TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA	ò a	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGGT 1620
k & 8	CACCCATCAACAGTATTATTTCTCCATGAAGAGGGTACGCGACTGGGGGGGG	oy Op	1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGATAAACTGGAAGAAATTCCCACAGGTT 1680
8 & 8	TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAACTTCTCTCGGTTTTTACTCTCGGTTTTAGCGGCCCATTAACTTCTCTCTC	ζ Oγ Op	1681 GCGCAACTGGCCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740
<i>≿</i> 8	CGCGTCTGCGTCTGGCTGGCTGGCTAAATATCTCACCTCGCAATCAAT	oy Op	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800
1 & A	CGGAACGGGAAGGCGACTGGAGTGCCATGTCGGGTTTTCACAAAACCATGCAAATGCTGAATGCTGAATGCTGAATGCTGAAACGGGAAACGGAATGCTGGAATTGCTCGGGTTTTTCAACAAACA	Oy Op	
<i>≿</i> 8		è e	1861 GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
k & 8	TGCGCGCCATTACCGAGTCCGGCTGCGCTTGGTGCGCATATCTCGGTAGTGGGATACG	ζς QΩ	
<u>ک</u> ج	901 ACGATACCGAAGACAGCTCATGTTATATCCGCCGTTAACCACCATCAAAGAGGATTTTC 960 	& 8	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040
}	GCCTGCTGGGGGCAAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGGCCAGGCGTGA 1	oy Op	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100

Qy 3181 CCAGAATGTGGCAACTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC 3240 Db 3181 CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCGGCACCAACGTACTCAC 3240 Qy 3241 ACCGGTAAAAAACTAGTGGCCAAGCCGGCCAGTACCCGTACGATCTCCGGACTTCCGGACTACGCT 3300 Db 3241 ACCGGTAAAAAACTAGTGGCCAAGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300	RESULT 5 AX202428 LOCUS LOCUS DEFINITION Sequence 16 from Patent W00152620. VERSION AX202428 VERSION AX202428 VERSION AX202428.1 GI:15392176	synthetic construct synthetic construct other sequences; artificial sequences. Barbas, C.F., Stege, J.T., Guan, X. and Dalmia, B. Methods and compositions to modulate expression Patent: WO 0152620-A 16 26-JUL-2001;	PEATURES DISCOVERY, INC. (CA) FEATURES Location/Qualifiers 13300 /organism="synthetic construct" /mol_type="unassigned DNA" /db_xref="taxon:32630" /note="PAttial sequence of pMal-m3 and zinc finger protein	ORIGIN Query Match Query Match Best Local Similarity 98.2%; Pred. No. 0; Matches 3242; Conservative 0; Mismatches 58; Indels 0; Gaps 0;	OY 1 CCGACACCATGGAATGGTGCAAAACCTTTCGCGGTATGGCATGATGGCGCCCGGAAGAGA 60 Db 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60 OY 61 GTCAATTCAGGGTGGTAAAACTGTGAAACCAGTAACGTTATAGGATGTGCGCAGAGTATGCCG 120		Oy 181 CGCGGGAAAAAGTGGAAGGGGGGAGGAGGAGTGAATTACATTCCCAACCGCGTGGCAC 240 Db 181 CGCGGGAAAAAAGTGGAAGGGGATGGCGAGCTGAATTACATTCCCAACCGCTGGCAC 240 Oy 241 AACAACTGGCGAAAAAAGAGTCGTTGCTGATTGGCGTTGCCACCTCCACGTCTGCCTGC			
	2221 GCATGGTCCAACATCGACAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	STCTG	TCATG TCATG TCATG	GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTCAAAAAGACGCGAAACTAATTCGAGCTCG		CCGGAATGTGGTAAGTCCTTCACCAGAGCAGCTCCCTGGTGGCCCCACCAGCGTACCCAC CCGGAATGTGGTAAGTCCTTCTCACCAGAGCAGCTTCCCTGGTGGCCCCACCAGCGTAAGTCCTTCTCTCAAGACTCTCTCACCTTGGTGCGCCCCACCAGCGTAAGTCCTTCTCTCAAGACTCTCACCTTGGTGCGCCCCACCAGCGTAAGAATGTAAGAAATGTAAGAAAATGTAAGAAAATGTAAGAAATGTAAGAAAAATGTAAGAAAAAA	ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGCAAATCTTTTAGCCAGTCCAGGCAAC CTGGTGCGCCATCAACGCACTCATACTGCGCGAGAAGCCATACAAATGTCGGCACC CTGGTGCGCCATCAACGCACTCATACTGCGGAGAAGCCATACAAATGTCCAGAATGTCGGC CTGGTGCCATCAACGCACTCATACTGCGGAGAAGCCATACAAATGTCCAGAATGTCGCCATACAAATGTCAGCAACTCAATACTAATACAAATGCAAATGTCAAATGTCAAATGTCAAATGTCAAATGTCAAATGTCAAATACAAATGCAAATGTCAAATACAAATGTCAAATACAAATGTCAAATACAAATGTCAAATACAAATGTCAAATACAAAATACAAAATACAAAAAA	AAGTCTTTCAGTCATTGCGCAACAACCAACGAACGAACGA	3061 CAGCGTACCCACACGGTGAAAACCGTATAAAATGCCCAGAGGAATGTCTTTTAGC 3120	3061 CAGCGTACCCACACGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120 3121 CGCAGCGATAACCTGGTGCGCCATCAACGCACATCATGCGGAAACCAAATCTTTTAGC 3120 3121 CGCAGCGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180 3121 CAGGCCGGCCACCTGGCCATCAACGCACTCATACTGGCGAGAAAGCCATACAAATGT 3180

1621 MCCGGANTTRANGTCACCGTTGACCATCCGGATAAACTGGAAGAATTCCCACAGGTT 1680 1621 MCCGGANTTRANGTCACCGTTGACCATCCGGATAAACTGGAAGAATTCCCCCACAGGTT 1680 1631 GCGGCAACTGGCCGTTGCCCTGACATTCTTCTGGACGCACACCGCCTTTTGATGGCTGCTTT 1610 1741 GCTCGAACTGGCCTGTTGGCTGAAATTCTTCTGGACGACGCGCCTTTTGATGGCTGTTT 1610 1741 GCTCGAACTGGCCTGTTGGCTGAAATTCTTCTGGACGACGCGCCTTTTGATGGCTGTTT 1800 1742 GCTCGAACTGGCCTGTTGGCTGAAATTCATCTTCTGGACGCGCTTTCTGGACGCTGTTTT 1800 1743 GCTCGAACTTGGCTGAAATTCATCTTCTGGACGCGCTAAACTGCTGGTTTT 1800 1861 GCTCGAACTTGGCTGAAATTCATCTCTGGACGAACGCGCTTTTGATGGTTTTTT 1800 1861 GCTCGAACTTGGCTGAAATTCATCTCTGGACGAACGCGCTTTTGATGCTTTTTTTT	2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTCCTCTGGGCGCCCTGGAGGCCCGGGGAGAAGCCCTATGCTTGT 2760
6 B 6 B 6 B 6 B 6 B 6 B 6 B 6 B 6 B 6 B	ය හි
CACCATCAACACTATATTTTCTCCCATCAACACCTACCCCATCAACTCCCCATCAACTCCCCATCAACTCCCCATCAACTCCCCATCAACTCCCCATCAACTCCCCATCAACTCCCCATCAACTCCCCCATCAACTCCCCCATCAACTCCCCCATCAACTCCCCCATCAACTCCCCCATCAACTCCCCCATCAACTCCCCCATCAACTCCCCCATCAACTCCCCCATCAACTCCCCCATCAACTCCCCCC	

AKEFLENYLLTDEGLEAVNKDKPLGAVALKSYEEELAKDPRIAATWENAQKGEIMPNI PQMSAAFWYAYRTAVINAASGROTVDEALKDAQTNSSSNNNNNNNNNLGIEGRISEFG SSSEGKPRRUVGCPWDASVEEGCVRRALDFAVGEYNKASNDWTHSRALOVVRARKGIV AGVNYFLDVELGRTTCTKTQPNLDNCPPHDQPHLKRKAFCSFQIYAVPWGGTWTLSKS TCQDASASHHHHHAGAFTAQAKKRKKSSCKRHPLVVDFSDVGWNDWTVAPPGYH AFYGGECPPPLADHLNSTNHAIVQTLVNSVNSKIPKACCVPTELSAISMLYLDENEK VLKNYQDMVVBGGGCR" misc_feature 2689 //notes=Fattor Xa Protease /position=388 (AMINO	misc_feature 30673.00 /note="/spacer zwischen Cystatin C und BMP-2" ORIGIN	Query Match 82.0%; Score 2705.8; DB 6; Length 7373; Best Local Similarity 99.2%; Pred. No. 0; Matches 2719; Conservative 0; Mismatches 22; Indels 0; Gaps 0;	Qy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	Qy 61 GTCAATTCAGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCG 120	Oy 121 GTGTCTTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGCCA	Qy 181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACGGTGGCG 240	Qy 241 AACAACTGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 Db 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGCCACTTGCCACCTCCAGTCTGGCCCTGC 300	Oy 301 ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGGGGG 360	Oy 361 TGGTGGTGTGGAACGAAGCGGCGTGGAAGCCGGGGGGGGG	Qy 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480 Db 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480	Oy 481 TIGCTGIGGAAGCTGCCTGCACTAATGTICCGGGGTTATTICTTGAIGTCTCTGACCAGA 540	Qy 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGGGGCGTGGAGCATC 600 Db 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGGTGGAGCATC 600	QY 601 TGGTCGCATTGGGTCACCACAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 600 L	Oy 661 CGCGTCTGCGTCTGGCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720	Qy 721 CGGAACGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAATGCTGA 780 Db 721 CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAATGCTGA 780	QY 781 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATGGCGCTGGCGCTAA 840
	GTGGC	AGAAG 3 AGAAG 3		QY 3061 CAGCGTACCCACACGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120 Db 3061 CAGCGTACCCACACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGT 3120	QY 3121 GGCAGCGATAACCTGGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180 Db 3121 GACTGCCGGACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180	QY 3181 CCAGAAIGIGGCAAGICTITCICAACTICAGGCCAITIGGICGGTCACGAAGGIACTICAC 3240 Db 3181 CCAGAAIGIGGCAAGICTITCICCCAAICCAGCCAICTCGICGGCACCAAGGIACTCAC 3240	Qy 3241 ACCGGTAAAAAAACTAGTGGCCAGCCGGCCAGTACCGGTACGACGTTCCGGACTACGCT 3300 Db 3241 ACCGGTAAAAAAAAAAAACTAGTGCCCAGCCCAGTACCGTACGACGTTCCGAACTACGTT		LOCUS AX284144 7373 bp DNA linear PAT 20-NOV-2001 DEFINITION Sequence 1 from Patent W00178756. ACCESSION AX284144 IGI:17044832		REFERRNCE 1 AUTHORS Wiederanders, B. and Maubach, G. TILE Agent for postoperative use after the removal of bone tumours JOURNAL Patent: WO 0178756-A 1 25-0CT-2001;	Depuy Biotech Jena GmbH (DE) FEATURES Location/Qualifiers 1.73737	/mol trype="transsigned DNA" /mol trype="transsigned DNA" /db xref="taxon:32630" /nofe="Expressionsvektor pMalc2cchbmp2" 1528. 3453	<pre>/note="unnamed protein product; /produkt=Fusionsprotein MBP Cystatin C BMP-2" /codon statt=1 /trans[table=11</pre>	/protein_id="CAD12160.1" /db_xref="G1:17044833" /framslation="MRIERGKLVIWINGDKGYNGLAEVGKKFEKDTGIKVTVEHPDKL EEKFPOVAATGRGEDTIFWAHPRGGYAAGGILAETTEDRAADGART VEETWALAANDAAGG	KLIAYPIAVEALSLIYNKOLLPRPPKTWEEIPALDKEIKAKKKKALMFNI,OEPYFTWE LIAADGGYAFKYENGKYDIKDVGVDNACAKAGLTFLVDLIKNKHMNADTDYSIAEAAF NKGETAMTINGPWAWSNIDTSKVNYGVTVLPTFKGQPSKPFVGVLSAGINAASPNKEL

1921 GAGÁTCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACGTACTTCACCTGGCGGTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040 	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACACCGATTAC 2160 	2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 	2221 GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 	2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340	2341 CCGAACAAGGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2401 GAAGCGGTTAATAAAGACAAACCGCTGGCGCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 	2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 	2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	2641 AACAACAACAATAACAATAACAACCTGGGATCGAGGAAGGA	2701 GGATCCTCTCTGTGGCCCAGGCGGCCCTCGAGCCCGG 2741 	AX172306 AX172306 8101 bp DNA linear PAT 03-JUL-2001	Sequence 3 Ilom Fatent MO014440 AX172306 AX172306.1 GI:14597487		AUTHORS Goubin-Gramatica, F., Ducommun, B. and Prevost, G. TILLE Method for obtaining human cdc25 phosphatases and method for identifying human cdc25 phosphatase modulators JOURNAL PALENT: WO 0144467-A 5 21-UIN-2001; SOCIETE DE CONSEILS DE RECHERCHES ET D'APPLICATIONS SCIENTIFIQUES
recececatiaccaagtccaactgcacgttactacaatatctcagtagtagaatacg	941 IGCOCCCCATTACCGAGGTCGGGGGTTGGTGGGGGGATATCTCGGAGTGGGGGATACG 900 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	GCCTGCTGGGGCAAACCAGGTGGTGTATCCCGCCGTTACCACCATCAAACAGGATTTTC GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCTGCAACTCTCTCAGGGCCAGGCGGTGA		CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGCTTT	CCCGACTGGAAAGGGGGAGTGGCCAATTAATGGGAGTTGGACTGGCACTGATTTAGTGGCACTGGAAAGAGGGAAAGAGGGCAAGGAAGG	GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGGGCGCGCGGGGGCGCGGGGGCGCGGGGGGGG	TCAGGCAGCCATCGCAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCGCTAAATTCG 13	TGTCGCTCAAGGCGCACTCCCGTTCTGGATATGTTTTTTGGCCCGACATCATAACTGTCAAAAAAAA	CTGGCAAATATTCTGAAATGACTGTTGACAATTAATCGTCGCTCGTATAATGTGTGGA 144 CTGGCAAATATTCTGAAATGACTGTTGACAATTAATCGTCGCTCGTATAATGTGTGGA 144 CTGGCAAATATTCTGAAATGATGTGACACATTAATCATCGGCTCGTATAATGTGTGAGA 144	ATTGTGAGCGGATAACAATTCACACAAGAACAGCCAGTCCGTTTAGGTGTTTTCACGA 150	GCACTITCACCAACAAGGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG	ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGATTTTCAAGAAAGA	accggaattaaagtcaccgttgagcatccggataactggaagaaattcccacaggtt 168 	1681 GCGGCAACTGGCCATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740	1741 GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800 DEF 1800	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCCGATCGCTGTT	GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCCAACCCGCCAAAACCTGGGAA 1920

```
1320
                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                              1380
                                                                                                                                                                                                                                                                                                                                                        1440
                                                                                                                                                                                                                                                                                                                                                                                                  1500
                                                                                                                                                                                                                                                                                                                                                                                                                                            1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1980
                  ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAAGATTTTC
                                              AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAGAAAACAACCACCCTGGCGCCCAATA
                                                                                                   GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                GCACTTCACCAACAAGGACCATAGATATGAAAATCGAAGAAGAAGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGGAACTGGCGATGGCCTGACATTATCTTCTGGGCACACGACGCTTTGGTGGCTAC
                                                                                                                                                                             GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                       CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                            ATIGIGAGGGATAACAATTTCACACAGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                        GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                   CGCAAACCGCCTCTCCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                           TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                      CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCGGCAACTGGCCGTGACATTATCTTCTGGGCACACACGCCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGCGITATCGCTGATTTATAACAAAGATCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAAACCCGCCAAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                             1021
                                                                                                                                   1081
                                                                                                                                                       1081
                                                                                                                                                                            1141
                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                     1261
                                                                                                                                                                                                                                                                                                                               1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1741
                        901
                                                                     961
                                                                                         1021
                                                                                                                                                                                                                       1201
                                                                                                                                                                                                                                                                 1261
                                                                                                                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                                                                                                                                      1381
                                                                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                                                                                1441
                                                                                                                                                                                                                                                                                                                                                                                                                     1441
                                                                                                                                                                                                                                                                                                                                                                                                                                         1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1861
                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1981
                  ద
                                             8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 & 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ठ
                                                                                                                        ö
                                                                                                                                                                                     120
                                                                                                                                                                                                          120
                                                                                                                                                                                                                                1.80
                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                             9
                                                                                                                                                              9
                                                                                                                                                                                 GIGICTCTIAICAGACCGITICCCGCGTGGTGAACCAGGCCAGCCACGTITCTGCGAAAA
                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAGGGGGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                          ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGGGGGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCGTTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                ACGCCCCCTCCCAAATTGTCGCCCGATTAAATCTCGCCCCGATCAACTCGCTCCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGAGGCCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8101;
                                                                                                                        ö
                                                                                                  Length
                                                                                                                     Indels
                                                                  Cdc25C1
                                                                                                  . 9
         Location/Qualifiers
1. .8101
Acganism="synthetic construct"
/mol type="unassigned DNA"
/db_xref="taxon:32630"
/note="souche JM109 / pMAL - Hs C
                                                                                                                     7
                                                                                                  DB
                                                                                               Score 2705.8;
Pred. No. 0;
0; Mismatches
                                                                                                                     ö
                                                                                               Query Match
Best Local Similarity 99.9%;
Matches 2707; Conservative
(FR)
                                                                                                                                          Н
                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                    61
                                                                                                                                                                                                       61
                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
           FEATURES
                                                                          ORIGIN
```

8 8 8 8 8 8

ठ व ठ

ద è 8 8

/note="Plasmid pMAL-c2x"	Query Match 81.8%; Score 2701; DB 6; Length 6648; Best Local Similarity 99.8%; Pred. No. 0; Matches 2704; Conservative 0; Mismatches 5; Indels 0; Gaps 0;	Qy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGCCATGATAGCGCCCGGAAGAGA 60	Qy 61 GTCAATTCAGGGTGGTGAATGTGAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120	Oy 121 GTGTCTCTTATCAGACGTTTCCCGGGGGGGGGGCCAGGCCACGTTTCTGGGAAAA 180	Qy 181 CGCGGGAAAAGTGGAAGCGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 Db 181 CGCGGAAAAAGTGGAAGCGGCGATGGCGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	Qy 241 AACAACTGGGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC 300 Db 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTTGC 300	Qy 301 ACGGCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 1	Qy 361 TGGTGGTGTCGATGGTAGAAGGAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGGACAATC 420	Qy 421 TTCTCGCGCAACGCGTCAGTGGGCTGATTAACTATCGCTGGTGGATGACCAGGATGCCA 480 Db 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTGGATGACCAGGATGCCA 480	Qy 481 TIGCIGIGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTCTTGATGTCTCTGACCAGA 540	Qy 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGGGTGGAGCATC 600 bb 541 CACCCATCAACAGTATTATTTTCTCCCCATGAAGACGGTACGGGACTGGGGCGTGGAGCATC 600	Qy 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660 L	Qy 661 CGCGTCTGGCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAGCCGTAG 720	Oy 781 ATGAGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA 840	Qy 841 TGCGGGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 Db 841 TGCGGCCATTACCGAGTCCGGGCTTGCTGCGGTTGCTGCGGATATCTCGGTAGTGGGATACCG 900	QY 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 DD 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	Qy 961 GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020
Db 1981 CTGCAGAACGTACTTCACCTGGCCGCTGATGCTGCTGACGGGGGTTATGCGTTCAAG 2040	Qy 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGGGGTGATAACGCTGGCGGGAAAGCG 2100	OY 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAACACATGAATGCAGACCCGATTAC 2160	Qy 2161 TCCATCGCAGAGGCGCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 bb 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCGTGG 2220	OY 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	Oy 2281 AAGGGTCAACCATCCAAACCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340	Oy 2341 CCGAACAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	OY 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGGGTGAAGTCTTACGAGGAAGAG 2460	Qy 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	Qy 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGC 2580	Qy 2581 GCCAGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	OY 2641 AACAACAACAATAACAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700	Qy 2701 GGATCCTCT 2709 Db 2701 GGATCCTCT 2709	RESULT 8 AX377531 LOCUS DOCUS AX377531 From Patent W00212553. ACCESSION AX377531 VERSION AX377531.1 GI:19573717	KEYWORDS Southetic construct SOUNCE synthetic construct ORGANISM synthetic construct construct other sequences; artificial sequences.	REFERENCE I AUTHORS Kappel, A., Polakowski, T., Pignot, M., Windhab, N., Behrensdorf, H. and Mith, J. Mith, J. TILE Method for detecting mutations in nucleotide sequences	Nanogen R	/organism="synthetic construct" /mol_type="unassigned DNA" /db_xref="taxon:32630"

g

Qy 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACAAAC		OY 2221 GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	OY 2281 AAGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGGGCAGGTATTAACGCCGCCAGT 2340	QY 2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGAAGATCTG 2400 Db 2341 CCGAACAAAGAGTTGCAACAAAAGAGTTCCTCGAAAACTATCTGCTGATGAAGAGTCTG 2400	OY 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 Db 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	OY 2461 TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	Oy 2521 CCGAACATCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	OY 2581 GCCAGCGGTCGTCGACGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640		Qy 2701 GGATCCTCT 2709 Db 2701 GGATCCTCT 2709	A91965 7475 bp	TION Sequence I from Patent ION A91965 N A91965.1 GI:6740811 DS .	-	AUTHORS Attwood, M.R. and Hurst, D.N. TITLE ANTIVIRAL PRPTIDE DERIVATIVES JOURNAL PATENT: WAS 9822496-A 1 28-MAY-1998; HOPEMANN 1.A POCHE (CH)	FEATURES Location/Qualifiers Source /organism="unidentified"	/mol_type="unassigned DNA" /db_xref="taxon:32644"	Query Match 81.8%; Score 2700; DB 6; Length 7475; Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	Qy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60
961 GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAACACCACCTGGCGCCCCAATA 1080	1081 CGCAAAACGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCACCCCTGGCGCCCAATA 1080 1081 CGCAAAACGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGGTTT 1140 1081 CGCAAAACGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGAACTTT 1140		1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCAGGGGGGCCCAATGCTTCTGGCG 1260 	AATTCG AATTCG	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 	1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 		1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCCATGACATTATCTTCTGGCCACACGGCTTTGGTGGCTAC 1740 	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCSTTCCAGGACAAGCTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCGGATGGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 	TCAAC			2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGAAAGCG 2100

1091 CGCAMACCCCCTCTCCCCCCCCCCTTGCCCANTCATTANTCTCAGTCACTCCTCTCTTG 100 1141 CCCCACTCCAAACCCCCTTCCCCCCCCCACTCCTTTCATTTCTTC
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
CORRECCIONAL MATERIAN MATERIAN CONTINUENTIAL INTERPRETANCE COCCUCADAMINA

		1021 AGGGCAATCACTGTTGCCGTCTCACTGGTGAAAGAAAAACCCCCTGGCGCCCAATA
6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8	3 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4	86868686
	PBD 2641 AACAACAACAACAACAACAACAACAACACTCGGGATCGAGGGATTTCAGAATTC 2700 RESULT 10 AR031992 LOCUS DEFINITION Sequence 1 from patent US 586684. ACCESSION AR031992 VERSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 CURSION AR031992 ATHORS Attwood, M. Richard., Hurst, D. Nigel., Jones, P. Stephen., Ray, P. Brittain., Raynham, T. Michael. and Wilson, F. Xavier. CURSION Attwood, M. Richard., Hurst, D. Nigel., Jones, P. Stephen., Ray, P. Brittain., Raynham, T. Michael. and Wilson, F. Xavier. JOURNAL Patent: US 58666844 A 102-FEB-1999; FRATURES CORTGIN AND L. 7475 CORGANISM MOLL LYPE="unassigned DNA" CORTGIN	Query Match 81.8%; Score 2700; DB 6; Length 7475; Best Local Similarity 100.0%; Pred. No. 0; No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCGGAAGAG 60 Db 1 CCGACACATCGAATGGTGAAAACCTTTCGCGGTATGGCATGATAGCGCCGGAAGAG 60 C) GTGAATTCAGGGTGAATGTGAAACCATAACGTTATAGGATGTCGCAGGTATGCCG 120 C) GTCAATTCAGGGTGAATGTGAAACCATAACGTTATAGGATGTCGCAGGTATGCCG 120 Db 61 GTCAATTCAGGGTGAATGTGAAACCATAACGTTATACGATGTCGCAGAGTATGCCG 120 C) [

0y 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTGAAGTCTTACGAGGAAGAG 2460 1	11 94 TION ION N	SOURCE Unknown. ORGANISM Unknown. Unclassified. Unclassified. Unclassified. Unclassified. Loaftwood, M.Richard., Hurst, D.Nigel., Jones, P.Stephen., Kay, P.Brittain., Raynham, T.Michael. and Wilson, F.Xavier. TITLE Antiviral medicaments JOURNAL Patent: US 6372883-A 116-APR-2002; FEATURES Location/Qualifiers source /organism="unknown" /mol type="unassigned DNA"	ORIGIN Query Match Query Match B1.8%; Score 2700; DB 6; Length 7475; Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 1 CCGACACCATCGAAAGCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAG 60 Db 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAG 60	Qy 61 GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120 bb 61 GTCAATTCAGGGTGGATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120 Qy 121 GTGTCTTATCAGACCGTTCCCGCGTGGTGAACCAGCCAGC	181 CGCGGGAAAAGTGGAAGCGCGAAGTGGCGGAGTTACATTCCCAACCGCGTGGCACCGCTGGCACCGCGTGGCACCGCGTGGCACCGCGTGGCACCGCGTGGCACCGCGTGGCACCGCGTGGCACCGCGTGCACCGCGTGGCACCGTGGCACCGTGGCACCGTGGCACCGTGGCACCGTGGCACCGTGGCACCTGCCTG	Qy 301 ACGCGCGCGCGAATTTGTCGCGCGATTTAATTTGTCGCGCCGATCAACGAGGG 360 Db 301 ACGCGCGTCGCAATTTGTCGCGGTTTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 Qy 361 TGGTGGTGCGATGGAACGAACGGGCGTGCAAAGCGGGGGGGG
1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680	1741 GCTCAATCTGGCCTGTAGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800	GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC	2041 TATGAAAGGGGAAAGGG 2100 2041 TATGAAAGGGCAAGTACATTAAAGACGGGGGGATAACGCTGGGCGGAAAGGG 2100 2041 TATGAAAACGGCAAGTACATTAAAGACGTGGGCGTGGATAACGCTGGCCGAAAGCG 2100 2101 GGTCTGACCTTCCTGGTTGACTTAAAAACAAGACATGAATGCAGACACCGATTAC 2160 2101 GGTCTGACCTTCCTGGTTGACTTAAAAACAAACAATGAATG	TCCATGGCAGAAGCTGCCTTTAATAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG GCATGGTCCAACACCACACAAGCGAAATATGGTGTAACGGTACCATCAACGGCCCGTGG GCATGGTCCAACATCGACACAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC	2281 AAGGTCAACCAAACCGTTGGCGTGCTGAGCGCAGTATTAACGCCGCCAGT 2340 2341 CCGAACAAAGAGCTGCCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA

Page 18

1501 GCACTICACCAACAAGGACCATAGATTATGAAAACTGAAGGGGGGTAAACTGGTAATCTGG 1560 	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 	1681 GCGCCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCTGGGTAACGCTGGCGGAAAGCG 2100	2101 GGTCTGACCTTCCTGATTGACCTGATTAAAACAAACACATGAATGCAGACACCGATTAC 2160 	2161 TCCATCGCAGAAGCTGCCTTTAATAAGGCGAAACAGCGATGACCATCAACGGCCCGGTGG 2220	2221 GCATGGTCCAACATCGACAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	2281 AAGGGTCAACCATCCAAACCGTTGGTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340	2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 	2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 [2521 CCGAACATCCCCCACAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCCGGTGATCAACGCC 2580	2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640
S G	yo g	\$ g	ò q	ζ Q	& a	\$ 8 8	oy D	ر ک	& A	à d	A 4	රු සි	è 8	& 8	& g	& 8	S G	ò
421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480	TGACCAGA 54	CACCCATCAACAGTATTATTTTCTCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC	37C7CGG	661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720 	ATGCTGA ATGCTGA	781 ATGAGGGCATCGTTCCCACTGCGATGCTGGCTACCATCAGATGGCGCTGGGCGCCA 840 	841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900	ACGATACCGAAGACAGCTCATGTTATATCCGCCGTTAACCACCATCAACAGGATTTTC	4-4		CAGGTTT 114 CAGGTTT 114	TCATTAG 120	GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGGGCACCAATGCTTCTGGCG	TAATTCG 132 TAATTCG 132	AACGGTT 138	CTGGCAAATATTCTGAAATGACCTGTTGACAATTAATCATCGCCTCGTATAATGTGGGA 144	TTCACGA 150	

	661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG [Db 781 ATGAGGGCATTCCTCACTGCGATGCTGGTAACGATCAGATGGCGCTGGGCGCAA 840 Qy 841 TGCGCCCATTACCGAGTCCGGCTTGGTGCGAATATCTCGGTAGTGGGATACG 900	1021 AGGGCAATCAGCTGTTGCCGTCTCACTGAAAAGAAAAACCCCCTGGGGCCCAATA	1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACTAATGTGAGTTAGCTCACTCA	1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCAGCTGCATAATTCG [Qy 1381 CTGGCAATGTTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 Db 1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 Qy 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 Db 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCCAGTCCGTTTAGGTGTTTTCACGA 1500	Oy 1501 GCACTTCACCAACAAGGACCATAGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560
		v	ORIGIN Query Match Query Match Best Local Similarity 99.8%; Pred. No. 0; Matches 2701; Conservative 0; Mismatches 5; Indels 0; Gaps 0; Qy CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60 Dh	6 GTCAATTCAGGTGGTAATGTGAAACCGTTATAGGTTGTGGGGGGGG	GCCAC 1 GCCAC CCTGC CCTGC	Oy 301 ACGCGCCGTCGCAAATTGTCGCGCGGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 bb 301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 Oy 361 TGGTGGTGTCGAATGGTAGAAGCGGCGTCGTAAAGCGGCGGTGCACAAATC 420 Dh 361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGTAAAAGCGGCGGTGCACAAATC 420	421 TTCTGCGCAACGCGTCAGTGGGCTGATTAACTATCGCTGGTGACCAGGATGCCATAACCAGATGCCAACACGGGTGATGCCAACACGGGTGATGCCAACACGGTGACGGGTGATGCTATTACTATCGCGTGGATGACCAGGTGCCAACACGGTGCGAACGCTGGATGCAACATTAACTATCCTGGATGACCAGAAGCTGCCAGAACATAATCTTCTTGATGTCTCTGACCAGAACACAAATATTATTTTTTTGATGTCTCTGACCAGAAATATTTTTTTT

გ

8 4 8 6 8 6 8 6 8 6 8 6

```
AF097412 6724 bp DNA circular SYN 28-JAN-2002
Expression vector pMBP-parallell, complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /codon start=1
/transI table=11
/product="lac repressor"
/product="lac repressor"
/protein id="ARGE3812.1"
/db_xref="GI:3983121"
/translation="MAELNYIPNRVAQQLAGKQSLLIGVATSSLALHAPSQIVAAIKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RADQLGAS VVVSMVERSGYEACKAAVHNILAQRVSGI I INYPLDDQOATAVERACTNV
PALFLDVSDOTP INSI I FSHEDGTRLGVEH VALGHQOA ALLAGPLSSVSARIRLAGW
HKYLTRNQI OP I AEREGDWSAMSGFOGTMQMLNEGI VPTAMLVANDQMALGAMRA I TE
SGLRVGAD ISVVGYDDTEDSSGY I PPLTTI RQDFRLLGGTSVDRLLGLSQGQAVKGNO
LLPVSLVKRKTTLAPNTQTASPRALADSLMQLARQVSRLESGQ"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                / LTAIN 14 LONG.
EEKFPOVAATGDGPDI IFWAHDRFGGYAQGGLLAEITPDKAFCDTGIKVTVEHPDKL
EEKFPOVAATGDGPDI IFWAHDRFGGYAQGGLLAEITPDKAFCDTGIKVTVEHPDKL
EEKFPOVAATGDGPDI IFWAHDRFGGYAQGGLLAEITPDKELKAKGKSALAENLOGPYFTWP
LIAADGGYAFKYENGKYDIKDVGYWYNERIPALDIKELKAKGKSALAENDLOFSIAEAAF
NKGETAMTINGPWAWSNI DTSKVNYGVTVLPFRGQFSKPFVGVLSAGINAASPNKEL
PQWSAFWYLLTDEGLEAVKDKFLGAVALKSYEEELAKDPRIAATWENAGKGIIMPAL
PQWSAFWYAVTAVINAASKGOTVUVBALKDAGTNSSSNNNNNNNNNGIDTTENLYF
QGAMDPFFKGIRRRAQLYRELSNLEPAVSHRAVPGLAAVLOKRDWENNGUGTGIPTENLYF
AAHPPPASWRNSEBARTDRPSQQLRSLNGEWGLGCFGG"
                                                                                                                                                                                                                                                                                                                                                                                                2 (bases 1 to 6724)
Sheffield, P.J., Garrard, S.M. and Derewenda, Z.S.
Direct Submission
Submitsed (05-007-1998) Molecular Physiology and Biological
Physics, University of Virginia, 4215 Jordan Hall, 1300 Jefferson
Park Avenue, Charlottesville, Virginia 22908, USA
                                                                                                                                                                                                             Expression vector pMBP-parallell other sequences; vectors.

(bases 1 to 6724)

Sheffield,P., darrard,S. and Derewenda,Z.
Overcoming expression and purification problems of RhoGDI using family of 'parallel' expression vectors
Protein Expr. Purif. 15 (1), 34-39 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               etch virus protease cleavage site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Expression vector pMBP-parallell"
/mol_type="other DNA"
/db_xref="taxon:84479"
204..il63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      spacer region"
                                                                                                                                                                                           Expression vector pMBP-parallel1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="protein s
2689. .2709
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="Tobacco e
2711. .2810
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="laciq"
204. .1163
/gene="laciq"
                                                                                                                                                     GI:3983120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2633. .2688
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .6724
                                                                                                                                                     AF097412.1
                                                                                                                                                                                                                                                                                                                                                                                 10024467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             promoter
                                                                                                       DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bource
                                                                                                                                                                                                             ORGANISM
                                               RESULT 13
AF097412
                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
                                                                                                                                                                                           SOURCE
                                                                                        LOCUS
                                                                                                                                                                      1800
                                                                                                                                                                                                                                                                                             1920
                                                                                                                                                                                                                                                                                                                                                                               1980
                                                                                                                                                                                                                                                                                                                                                                                                                     1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2280
                                                                                                                                                                                                                                                                                                                  TATGAAAACGCCAAGTACGACATTAAAGACGTGGGGGTGGATAACGCTGGCGGGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACATGAATGCAGACACCGATTAC 2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2580
ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2700
                                                                                                                                                                                                                              GGGGCAACTGGCGATGGCCCTGACATATCTTCTGGGCACACGACGGCTTTGGTGCTAC
                                                                                                                    GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                           GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                      GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                         GCGGCAACTGGCGCATGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                      CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                      GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2281 AAGGGTCAACCATCCAAACGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1461 TIGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2581 GCCAGCGGTCGTCAGACTCTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2641 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGCGGTCGTCAGACTGTCGATGAAGCCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGATCC
                                                                             1681
                                                                                                                    1741
                                                                                                                                                               1741
                                                                                                                                                                                                                                             1801
                                                                                                                                                                                                                                                                                      1861
                                                                                                                                                                                                                                                                                                                               1861
                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2041
1621
                                      1681
                                                                                                                                                                                                      1801
                                                                                                                                                                                                                                                                                                                                                                      1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2701
```

g

ठे

g

ઠે

ò

셤

8 6 8 6

8 8

8 6 8 6 8 6

දු දු

ઠે

```
1320
                                                                                                                                                                                                                                                                                                                                          1200
                                                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                                                                                  1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1860
                                                                                                                                                                                                                                         1080
                                                                                                                                                                                                                                                                  1080
                                                                                                                                                                                                                                                                                        1140
                                                                                                                                                                                                                                                                                                                  1140
                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1560
                                                                                                                                                                                        1020
                                                                                                                                                                                                                1020
                                                                                                                                                                960
              780
                                     840
                                                            840
                                                                                      900
                                                                                                              900
                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                          GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGCCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGTGGCTAC
                                                GCCTGCTGGGGGGAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                      TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCACTTCACCAACAAGGACCATAGAAAATCGAAGAAGAAGTAAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGCAACTGGCCGTTGACATTATCTTCTGGGCACACGACGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
              CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                       ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                              recececcarracceaercceeecrececricerceeararcreeeragearace
                                                                                                                                       ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                        GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                         AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCCCCAATA
                                                                                                                                                                                                                                                                                           CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                            TCAGGCAGCCATCGCAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGCCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1441
                                                                                                                                                                                                                                                                                                                                                                                                                                            1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1801
                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                                   1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1501
                                                             781
                                                                                        841
                                                                                                                                                                901
                                                                                                                                                                                         196
                                                                                                                                                                                                                196
              721
                                       781
                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       장 염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                          8 6 8 6
                                                                                                                                                                                                                                                                                                                                                            원 상 원
                                                                                                                                                                                                                                                                                                                                                                                                                                   8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            දු දු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
              8 &
                                                     q
                                                                                    ò
                                                                                                            g
                                                                                                                                     δ
                                                                                                                                                        g
                                                                                                                                                                                      8 8 8
                                                                                                                                                  /trānslation="MSIQHFRVALIPFPAAFCLPVFAHPETLVKVKDAEDQLGARVGY
IELDLNSGKILESFRPEERSPWMSTFKVLLCGAVLSRVDAGQEQLGRRIHYSQNDLVE
SYSTEKHLTDGMTYRELCSAAITMSDNTAANLLLTTIGGPKELTAFHNMGDHYTRL
DYRPPELNEAIPNDERDTTMPVAMATTLRKLLTGELLTLASRQQLIDWMEADKVAGPL
LRSALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIA
EIGASLIKHW"
                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      099
                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCGTTGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                       GFGTCTCTTATCAGACCGTTCCCCGCGTGGTGAACCAGGCCACGCTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                    GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGGGAAAAAGTGGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGGGGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCATAAATATCTCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rrecretegaagcreccrecraarerrecegecrrarrerrearerereaga
                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                      6724;
                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                      12;
                                                                                                                                                                                                                                                      DB
  site"
                                                                                                                                                                                                                                                    Score 2676.2;
Pred. No. 0;
0; Mismatches
                                                                                                 /transT table=11
/product="beta-lactamase"
/protein_id="AAC83814.1"
/db_xref="GI:3983123"
  cloning
/note="multiple c
3426. .4356
/gene="bla"
3426. .3454
                            / 1454
/gene="bla"
3496. .4356
/gene="bla"
/codon_start=1
/transl_table
                                                                                                                                                                                                                                                    81.1%;
llarity 99.9%;
Conservative
                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                           Matches 2678;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                             н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                   promoter
                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                             SGS
                                                                                                                                                                                                                            ORIGIN
```

셤

ઠે

6 B 6 B 6 B 6

8 8 8 8

8 8 8 8

8 8 8

8 &

g

Š

ö

Gaps

120 120 180 180 240 240 300 300 360 360 420

9

```
Patent: WO 0206306-A 194 24-JAN-2002;
PHARMACIA & UPJOHN COMPANY (US)
Location/Qualifiers
1. .6806
/organism="unidentified"
/mol_type="unassigned DNA"
/db_xref="taxon:32644"
/nofe="fusion protein comprising a maltose binding protein with 125 amino"
                                                                                                                                                                                                               GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                   TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGGTGCAAATC
                                                                                                                                                                                                                            GTCAATTCAGGGTGGTGAAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                          CCGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                       ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TIGCTGIGGAAGCIGCCIGCACTAAIGITCCGGCGITAITTCITGAIGICTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGGACTGGGGGGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTCGCATTGGGTCACCAGCAAATCGCGCGTTTTAAGCGCCCATTAAGTTCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGTCTGCGTCTGGCTGGCTGGCAAAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCGCGCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGTATCTCGGTAGTAGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                             Length 6806;
                                                                                                                                                   ó
                                                                                                                                                   Indels
                                                                                                                             9
                                                                                                                                                  .
7
                                                                                                                             B
                                                                                                                           79.9%; Score 2636.8;
99.9%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                 Conservative
                                                                                                                          Query Match
Best Local Similarity
Matches 2638; Conserv
                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                         source
       JOURNAL
                             FEATURES
                                                                                                       ORIGIN
                                                                                                                                                                                      g
                                                                                                                                                                                                              ò
                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                       원 상 원
                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                     8 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                               8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9 % g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ДQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                      1980
                                                                                          1980
                                                                                                               2040
                                                                                                                                                         2100
                                                                                                                                                                             2100
                                                                                                                                                                                                    2160
                                                                                                                                                                                                                        2160
                                                                                                                                                                                                                                             2220
                                                                                                                                                                                                                                                                  2220
                                                                                                                                                                                                                                                                                                                                 2340
                                                                                                                                                                                                                                                                                                                                                      2340
 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
                                                                                                                                                                                                                                                                                 GCATGGTCCAACATCGACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                    GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAAAGGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                           2400
                                                                                                                                                                                                                                                                                                                                                                                   2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2580
                                                                                                                                                                                                                                                                                                                                                                                                                GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAT 18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bienkowski, M.J.
                                                                               GAAGGGITATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                    TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAAGCG
                                                                                                                                                                                              GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                        TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                       1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGGAACCCGCCAAAAACCTGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                             2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                         2461 TTGGCGAAAGATCCACGTATTGCCGCCACAATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Yan, R., Tomasselli, A.G., Gurney, M.E., Emmons, T.L., and Heinrikson, R.L. Substrates and assays for \_g(b)-secretase activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGA 2681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6806 bp
WO0206306.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AX378208
Sequence 194 from Patent
AX378208
AX378208.1 GI:19574061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unidentified
unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     unidentified
  1801
                       1861
                                                                 1921
                                                                                      1921
                                                                                                           1981
                                                                                                                                1981
                                                                                                                                                    2041
                                                                                                                                                                          2041
                                                                                                                                                                                                                   2101
                                                                                                                                                                                                                                                              2161
                                                                                                                                                                                              2101
                                                                                                                                                                                                                                                                                   2221
                                                                                                                                                                                                                                                                                                        2221
                                                                                                                                                                                                                                                                                                                                                                       2341
                                                                                                                                                                                                                                         2161
                                                                                                                                                                                                                                                                                                                             2281
                                                                                                                                                                                                                                                                                                                                                  2281
                                                                                                                                                                                                                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                           2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 14
AX378208
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
셤
                     6 6 6
                                                                                음 장
                                                                                                                         셤
                                                                                                                                           ઠે
                                                                                                                                                                    윰
                                                                                                                                                                                       ò
                                                                                                                                                                                                            g
                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                        음 중
                                                                                                                                                                                                                                                                                                 සු දු
                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                         ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      음
```

480 480 540

420

600

600 099 999 720 720 780 780 840 840

900

1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGGCTGACGGGGGTTATGCGTTCAAG 2010	RESULT 15 AF031088 LOCUS DEFINITION AF031088 AF031088 AF031088 LOCUS Shuttle vector pMAL-pIII, complete sequence. ACCESSION AF031088.1 GI:2623821 KEYWORDS SOURCE SOURCE SOURCE ACTIONS AF031088.1 GI:2623821 KEYWORDS SOURCE CORGANISM AF031088.1 GI:2623821 CHORSENON AF031088.1 GI:2623821 CHORSENON AF031088.1 GI:2623821 CHORSENON AF031088.1 GI:2623821 CHORSENON AF031088.1 GI:2623821 CHORSENON ACTIONS AUTHOR
10	1561 ATTAACGGGATAAAGGCTATAACGGTCGGTGAAGAAATTCGAGAAAGAT 1620 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGT 1620 1621 ATTAACGGCGATAAAGGCTTCGGGTAACTCGGAAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATAAACTGGGAAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGAACAAGGAAATTCCCCAGGGTT 1680 1681 GCGCAACTGGCGCTTGAGCATCCGGAACAAGCGTTTGGTGCCTAC 1740 1681

Ä

120

180 180

120

9

240

240 300 300 360 420

540 480

540 600 099 99 720

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1020
                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                         GICAATICAGGGIGGIGAAIGIGAAACCAGTAACGITATACGAIGICGCAGAGIAIGCCG
                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                            GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                          GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                              AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                    ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                 Acececcercecanarrercececcarranarcreececcarcanereseca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                           CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                           361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481 TIGCIGIGIGAAACCIGCCIGCACIAAIGIICCGGCGTIAITICIIGAIGICCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTTTTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781 ATGAGGGCATCGTTCCCACTGCGATGCTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGCGCCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTGCTGGGGGCAAACCAGCGTGGAACCTGCAACTCTCTCAAGGCCAAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTGCTGGGGCAAACCAGCGTGGACGCTTGCTGCAGACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                   Gaps
                                                                 60;
                                      Length 6706;
                                                                Indels
                                                                .,
                                      DB 12;
                                   Score 2631; DB
Pred. No. 0;
0; Mismatches
                              79.7%;
97.7%;
                                               Best Local Similarity 97.7
Matches 2704; Conservative
                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                        241
                                                                                         Н
                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                  61
                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
    ORIGIN
                                                                                                                8
                                                                                                                                                ò
                                                                                                                                                                       셤
                                                                                                                                                                                                                             g
                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                2 8
                                                                                                                                                                                                                                                                                                                  જે
                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                               / FTATAL LALL LONG-"MKKLLFALPLVVPPYSHSADMKIEEGKLVIWINGDKGYNGLAEUV GKKFEKDTGITVTVEHPDKLEEKFPOVAATGOSPDIIEWAHDRFGGYAQSGLLAEITP DKAFGOKLIPTPPPRYTYPTWALLIAYPPAHASIITYNKOLLIAYPPRYTYPPETPALDKEL KAKGKSALMPRIQERPETPALDIA AAAGGAYAFKTENGKYDIKDVGVDNRGAKAGLTFLVD LIKNKHMNADTDYSIABAAFNKGETAMTINGPWAWSNIDTSKVNGYDVLFTFLVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KPFVGVLSAGINAASPNKELAKEFLENYLLTDEGLEAVNKÖKPLGAVALKSYEEELAK
DRYTAATMENAQKGELMPUTDPMSARYTAVRTANINAASGROTVDEALKDAGTNSSSN
NNNNNNNNILGIEGET SEFGSSRVDLQASLALAVVLQRRDWENPGVTQLNRLAAHPPF
ASWRNSEBARTDRPSGQCLRSLNGEWQLGCFGG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /translation="WIIQHPRVALIPPFAAPCLPVPAHPETLVKVKDAEDOLGARVGY
ILDLINSGKILESPRPERRSPWMSTRKVLLGGAVLSRVDAGGEGLGRRIHYSGNDLVE
YSPVTEKHLTDGMTVRELCSAAITWSTRVTAANLLTTIGGPKELTAFLHWGHVTRL
DRWEPELNEAIPNOGSTATTMATAKLLTGELLTLASROGLIDWMEADKYAGEL
LRSALPAGWFIADKSGAGERGSRGIIAALGPDGKFSRIVVIYTTGSQATWDERNRQIA
            Note="derived from commercially available vector pMal-p2 [New England Biolabs)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product="maltose binding protein-lacz alpha peptide fusion protein precursor" 
/protein_id="AAB86559.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="malE-lacZa fusion"
/product="maltose binding protein-lacZ alpha peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                           M13
                                                                                                                                                                                                                                                                                                                                                                                                                                        to include phage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note="R-plasmid ampicillin resistance gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1528. .1581
/gene="malE-lacZa fusion"
/note="M13 secretion signal sequence"
                                                                                                                                            note="transcriptional repressor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4381. .4893
/standard_name="M13 origin (+ -)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /transI_table=11
/produci="RTRN" | beta-lactamase"
/protein_id="AAB86560.1"
/db_xref="GI:2623824"
                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="malE-lacZa fusion"
/note="MBP-lacZa; MBP modified
secretion signal sequence"
                                                                                                                                                                                                                                                                                                                                                                            'gene="malE-lacZa fusion"
'note="E. coli gene fusion"
528. .2976
xref="taxon:69327"
                                                                                                                                                                                                                                                                                                                                                  note="Ptac promoter"
528. .2976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note="penicillinase"
                                                                       gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="GI:2623823
                                                                                                                                                          /codon_start=1
/transl_table=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
/transl_table=11
                                                                    'note="E. coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fusion protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              codon_start=1
                                                                                             /gene="lacI"
81. 1162
                                                        /gene="lacI"
                                                                                                                             gene="lacI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1582. .2973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4338 (gene="bla"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3478. .4338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EIGASLIKHW"
                                                                                  .46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rep_origin
                                                                                   promoter
                                                                                                                                                                                                                                                                                                                                   promoter
                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                             CDS
                                                                                                                                                                                                                                                                                                                                                                                                         SOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  500
```

201 ThirdanAnceCharge Control And Cont
1913 AGGGCANTCHGCTGTTGCCCGTTCACTAGTAANAGANAACCACCTGGCGCCCANTA 1080 1914 AGGCCANTCHGCTGTTCACTACTACTACTACTACTACTACTACTACTACTACTA



```
Barbas, C.F., Stege, J.T., Guan, X. and Dalmia, B.
Methods and compositions to modulate expression in plants
Patent: WO 0152620-A 14 26-UUL-2001;
The Scripps Research Institute (US); SYNGENTA AGRICULTURAL
DISCOVERY, INC. (CA)
Location/Qualifiers
Location/Qualifiers
| location/Qualifiers | 1.3300 |
//mol_type="unassigned DNA" |
//mol_type="unassigned DNA" |
//note="Partial sequence of pMal-m1 and zinc finger protein
ZPPm1"
                                             AY219686 Expression AY219686 Expression AY21968 Expression AY219689 Expression AY219689 Expression AY219683 Shuttle en AY219684 Shuttle en AY219684 Shuttle en AY219684 Shuttle en AY219684 Shuttle en AY219684 Shuttle en AY219684 Shuttle en AY219684 Shuttle en AY219684 Shuttle en AY219684 Shuttle en AY219684 Shuttle en AY219684 Expression AY219684 Expression AY219684 Sequence AY21968 Coloning volume of AY21628 Sequence AY21628 Sequence AY21628 Sequence AY21628 Sequence AY21628 Sequence AY21628 Sequence AY21628 Sequence AY21628 Sequence AY21628 Sequence AY21960 DNA sequence
AX768200 Sequence
AX768202 Sequence
AX78203 Sequence
AF140577 Integrati
AX431576 Sequence
                                                                                                                                                                                                                                                                                                                          PAT 30-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                              AR373251 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 6; Length 3300;
                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                          DNA
                                                                                                                                                                                                                                                                                                                                                                         synthetic construct
synthetic construct
other sequences; artificial sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 3300;
100.0%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                            ALIGNMENTS
                                                                                                                                                                                                                                                                                                                      Sequence 14 from Patent WO0152620.
AX768200
AX768202
AX768203
AX740577
AX431576
                                                         AY219686
AY219688
AY219689
                                                                                              AY219682
AY219683
AY219684
                                                                                                                           AF177933
AF177932
AY302759
                                                                                                                                                                                    AY243506
CQ846977
AX478528
                                                                                                                                                        AY289542
AR493834
                                                                                      AY219687
                                                                                                                                                                                                                           AB116367
                                                AY219685
                                                                                                                                                                                                                                               AR373251
                                                                                                                                                                                                                                                                                                                                                     AX202426.1 GI:15392173
                             Best Local Similarity 100.
Matches 3300; Conservative
 4935
49945
49945
49945
11511
1511
1511
44159
49159
4968
6956
6956
6359
6399
                                                                                                                                                        6587
5201
5201
4806
4803
1922
1922
4557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
  1417.6
1417.6
                                                                 1417.6
1417.6
1417.6
                                                                                               1417.6
                                                                                                                 1417.6
1400.8
                                                                                                                                    1400.8
1400.8
1400.8
                                                                                                                                                                   1362
                                                                                                                                                                                   1329.2
1238.4
1238.4
1237.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                       RESULT 1
AX202426
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AX202427 Sequence
AX202430 Sequence
AX202429 Sequence
AX202428 Sequence
AX2024144 Sequence
AX172306 Sequence
AX177531 Sequence
AX377531 Sequence
AX377532 Sequence
AR031992 Sequence
AR071920 Sequence
AX377532 Sequence
AX377532 Sequence
AX377532 Sequence
AX377532 Sequence
AX377532 Sequence
AX377532 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AF031088 Shuttle v
AF031813 Expressio
                                                                 July 31, 2005, 20:22:50 ; Search time 9276 Seconds (without alignments) 17238.272 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CQ794769 Sequence
CQ846980 Sequence
AX768201 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AX202426 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                           1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Description
          GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                           4708233 segs, 24227607955 residues
                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AF031088
AF031813
CQ794769
CQ846980
AX768201
                                                - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF097412
AX378208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AX202430
AX202429
AX202428
AX202428
AX172306
AX377531
A91965
AR031992
AX377532
                                                                                                                                             IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                 seq length: 0 seq length: 2000000000
                                                                                                        US-09-765-555B-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match Length DB
                                                                                                                                                                                                                                                                                          gb ba: *
gb ba: *
gb ov: *
gb ov: *
gb pt : *
gb pt : *
gb pv: *
gb ov: *
gb ov: *
gb ov: *
gb ov: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  33300
33300
33300
33300
33300
33300
4475
7475
7475
6724
6806
6724
6706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5558
4700
4921
                                                                                                                                                                                                                                                                                    GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3300
                                                                                                                                                                                                                                                                                                       3300
3226.4
3215.2
3207.2
2705.8
2705.8
2705.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2676.2
2636.8
2631
2598.2
1609.4
1474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2700
                                                                                                                   Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                                             Scoring table:
                                                                                                                                                                                                                Minimum DB Maximum DB M
                                                OM nucleic
                                                                                                                             Sequence:
                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                    Database
                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Result
```

ression in plants WGENTA AGRICULTURAL	/note="Partial Sequence or pwal-m2 and zinc Linger prote ZPPm2" atch	Matches 3300; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 1 CCGACACCATCGAATGCTGCAAAACCTTTCGCGGTATGCGCATGATAGCGCCCGGAAGAGA 60 Db 1 CCGACACCATCGAATGCTGCAAAACCTTTCGCGGTATGGCATCATAGCGCCCGGAAGAGA 60	Oy 61 GTCAATTCAGGGTGAAATGTGAAACCAGTAAACGATATACGATGTCGCAGAGTATGCCG 120	Db 121 GTGTCTTATCAGACCGTTTCCGGCGTGAACCAGCCAGCTTTCTGCGAAAA 180 Qy 181 CGCGGGAAAAAGTGGAAAGGGGGGATGGCGGAGCTGAATTACATTCCGAACGGCCC 240 191 CGCGGGAAAAAGTGGAAGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	241 AACAACTIGGGGGAAACAGTCGTTGCTGATTGCGACCTCCAGCCTGCCT	301 ACGCGCCGCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 301 ACGCGCCGCGAATTGTCGCGGCGATTAAATCTCGCGCCCAATCAACTGGGTGCCAGCG	361 TGGTGTGTGTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGCGCGC	421 TTCTCGCCCAACGCGTCAGTGGTCATTAACTATCCGCTGGATGACCAGGATGCCA 48	481 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTCTTGATGTCTCTGACCAGA	541 CACCCATCAACACTATTATTTCCCCATCAAGACGGTACGCGACTGGCCGTGGAGCATC 541 CACCCATCAACACTATTATTTTCCCCCATCAAGACGGTACGGGACTGGGGGGGG	601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG	QY 661 CGCGTCTGCGTCGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720	Qy 721 GGGAAGGGAAGGGACTGGAGTGCCATGTTCAACAAACCATGCAAATGCTGA 780	781 ATGAGGCATCCCATGCGATGCGATGCGAACGATCGGCTGGCGCAACGATGGCGCTGGCGCAACGATGGCGCAACGATGGCGCAACGATGGCGAACGATGGCGCAACGAACG
Qy 2401 GAAGGGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 Db 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTGAGGCTGAAGTCTTACGAGGAAGAG 2460 Qy 2461 TTGGCGAAAGATCCACGTATGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 C 2251 CCGAACATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Qy 2521 CCGAACATTCTGGTATTGCCGCCACGTGGAAAACGCCCAGAAAGGTGAAATCATGCCGCAGAAATCATGCCGCAGAAATCATGCCCCAGAAATCATGCCCCAGAAAATCATGCCCCAGAAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCAAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCCAGAAATCATGCCAAAATCATGCCCAGAAATCATGCCAAAAATCATGCCAAAAAATCATGCCAAAAAATCATGCCAAAAAAAA	Db 2521 CGGAACATCCCGCAGATGTCCGTTTTCTGGTATGCCGTGCTACTGCGGTATCAGCGC 2580 Qy 2581 GCCAGCGGTCGTCGATGAGAGCCCTGAAAQACGCGCAGACTATTCGAGCTCG 2640	QY 2641 AACAACAACAACAACAATAACAATAACAACAACACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700 Db 2641 AACAACAACAACAATAACAATAACAACATCGGGATCGAGGAATTTCAGAATTC 2700 Ov 2701 GGATCCTCTTCTTCTTCTTCTAGACCTCTGAGCCCTGGAGAATTCTTATTCTTTCT	2761 CCGGAAIGTGGTAAGCCCTCAAGCCCTCGGGGGGGGGCCTATGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTG	DD 2761 CCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCCC 2820 Qy 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC 2880	Qy 2881 CTGGTGCGCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940	QY 2941 AAGTCTTTCTCTCGGCAATCTCGGCACCACCAACGTACTCACACGGGGAGAAG 3000 2941 AAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACGGGGGAGAAG 3000	Qy 3001 CCCTATGCTTGTCGGAATGTGGTAAGTCCTTCAGCCGCGGGGTAACCTGGTGCGCCAC 3060	Qy 3061 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120 1061 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC 3120	Oy 3121 CAGGCCGCCACCTGGCCAGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180	OY 3181 CCAGAATGTGGCAAGTCTTTCTCTCGGCTGACAATCTCGTCGGCACCAACGTACTCC 3240	Oy 3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACTTCCGGACTACGCT 3300		sequence 15 from Facent WO015282 4X202427 4X202427.1 GI:15392175	SOURCE synthetic construct ORGANISM synthetic construct

8 8 8 8

.
synthetic construct
synthetic construct
other sequences; artificial sequences.

REFERENCE

Page 4

GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGGCGCCTGATGTTCAAC GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGGCGCCTGATGTTCAAC CTGCAAGAACCGTACTTCACCTGGCCGCTGATGCTGCTGAAGGCGCGCTGATGTTCAAC CTGCAAGAACCGTACTTCACCTGGCCGCTGATGCTGCTGACGGGGGTTATGCGTTCAAG CTGCAAGAACCGCAGTTACACTTCACCTGGCCGCTGATGCTCGACGGGGGTTATGCGTTCAAGCGTGGCTGAAGCGGGGGTTATGCGTTCAACACTGATGCTTCAAGCGGGGGTTATGCGTTCAACACTGATGACTCAAGACGGGGGTTAAACACCCTTCACCTGATTAAAAACGGCTGGATAAACGCTGAAGCGGGGAAAGCG TATGAAAACGGCAATTAAAAAACAAAAAAAAAA	2641 - - - - - - - - - - - - -
	6 8 6 8 6 8 6 8 6 8 6
•	
## ## ### ##########################	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620

	CGCGTCTGCGTCTGGCTGGCCGTAAATATCTCCACTCGCAATCCAATTCAGCCGATAG CGCGTCTGCGTCTGGCTGGCTGGCTGAATATCTCCACTCGCAATCCAATTCAGCCGATAG CGCGTCTGCGTCTGGCTGGCTGAAATATCTCACTCGCAATCCAATTCAGCCGATAG CGCGAACGGGAACGGGAGGCGTGCCGTTTTCAACAAACCATGCAATGCTGA CGGAACGGGAAGGCGATGGCCATGTCCGGTTTTCAACAAACCATGCAATGCTGA ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCCAACGATGGCGCTGGGCGCAA ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGTGGCGCCAA ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGTGGCGCCAA ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCCAA ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCCAAA	## ## ## ## ## ## ## ## ## ## ## ## ##	AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA 108	CCCGACTGGAAAGCGGGGAGTGAGCGAATGATGTGAGTTAGTT	1261 TCAGGCAGCCATCGGAACCTGTGGTAGTGGCAGGTCGTAAATCATGCATAATTCG 1320	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440
6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8 6 8 6 8 6 8	8 8 8 8 8	\$ 6 & 6 & 6	8 6 8 6	cy Gy Gy	oy by
	RESULT 3 AX202430 LOCUS LOCUS LOCUS DEFINITION Sequence 18 from Patent W00152620. AX202430 AX	AUTHORS Barbas,C.F., Stege,J.T., Guan,X. and Dalmia,B. TITLE Methods and compositions to modulate expression in plants JOURNAL Patent: WO 0152620-A.18 26-JUL-2001; The Scripps Research Institute (US); SYNGENTA AGRICULTURAL DISCOVERY, INC. (CA) FRATURES 1. 3300 1. 3300 1. 50ganism="synthetic construct" /mol_type="unassigned DNA" /mol_type="unassigned DNA" /note="Parial sequence of pMal-Ap3 and zinc finger protein ZEPAp3."	ORIGIN Query Match 97.8%; Score 3226.4; DB 6; Length 3300; Best Local Similarity 98.6%; Pred. No. 0; Matches 3254; Conservative 0; Mismatches 46; Indels 0; Gaps 0; Qy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60 Db 1 CCGACACCATCGAAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60		Oy 181 CGCGGGAAAAAGTGGAGGGGGATGGCGGAGCTGAATTACATTCCCAACCGGTGGCAC 240 Db 181 CGCGGGAAAAAGTGGAAGTGGCGAGGTGAATTACATTCCCAACCGCTGGCAC 240 Oy 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 Db 341 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300	301 ACGCCCTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGCTGG

2521 CCGAACATCCCGCAANTGCCGTAAAAACCCGTACATCGCGTAACACCG 2540	RESULT 4 AX202429 LOCUS DEFINITION Sequence 17 from Patent W00152620. ACCESSION AX202429 VERSION AX202429 VERSION AX202429.1 GI:15392177 KEYWORDS SOURCE Synthetic construct ORGANISM Synthetic construct ORGANISM Sharbas, C.F., Stege, J.T., Guan, X. and Dalmia, B. TITLE Methods and compositions to modulate expression in plants JOURNAL Patent: WO 0152620-A 17 26-JUL-2001; The Scripps Research Institute (US); SYNGENTA AGRICULTURAL DISCOVERY, INC.
1441	2221 GCATGGTCCAACATCGACAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 2221 GCATGGTCCAACCATCCAACCGTTCGTTGGCGTGTTAACGGTGCTACTGCCGACCTTC 2280 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGTGTGGTGTTTAACGCCGCCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGTGGTGTATTAACGCCGCCAGT 2340 2341 CCGAACAAAGAGCTTCGTTGGTTGGTGGTGGTGTATTAACGCCGCCAGT 2340 2341 CCGAACAAAGAGCTGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA

GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 102 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAA	1081 CGCAAACCGCCTCTCCCCGCGCTTGGCCGATTTATTGTTATTGCAGGACGACGACGACGGTTT 1140	1141 CCGGACTGGAAGGGGGGGGGGGGGGGGGGGGGGGGGGGG	1261 TCAGGCAGCCATCGGAAGCTGTGGCTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320	TOTCGCTCAAGGCGCATCCCCTTCTGGATAATCTTTTTGCGCCGATCATAACGGTT TGTCGCCCAAATATTCTGAAATGAGCTGTTGAAATAATCATCAGCGCTCGTAAATGTGTGGGAA CTGGCCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCCTCGTAAAATGTGTGGA		1441 ATTGTGAGGGGATAACAATTTCACAGGAAACAGCCAGTCCGTTAGGTGTTTTCACGA 1500 1501 GCACTTCACCAACAAGAACCATAGATTATGAAAACTGAAAAGGTAAACTGGTAATCTGG 1560	GCACTICACCAACAAGGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG	ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGATAAGGGTAAAGGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGATAAGGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGATAAGGGTAAGAAAGA	ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 	GCGCCACTGGCGATGGCCCTGACATTATCTTCTGGGCCACAGGACCGCTTTGGTGGCTAC 1 [GCTCANTCTGGCTGTTGGCTGAATCACCCGGGACAAGCCTTCCAGGACAGGTGTAT 1	CCGTTTACCTGGGATGCCGTACGTTACACGCAAGCTGATTGCTTACCCGATCGCTGTT 186	1861 GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 	GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCTGATGTTCAAC 1 	CTGCAAGAACGTACTTCACCTGGCCGCTGATTGCTGACGGGGGGTTATGCGTTCAAG 20	2041 TATGAAACGGCAAGTACCACATTAAAGACGTGGGCGTGGATAACGCTGGGGCGCGAAGGG 2100
90 VV	ò 8 ò	9 % a	è 8 è	ኝ å ኝ	qa XX	a y	qa &	∂ 6	දු දු	රු අ	y da	х а	ov Ov	çç qa	λ da	oy op
ORIGIN Query Match 97.4%; Score 3215.2; DB 6; Length 3300; Best Local Similarity 98.4%; Pred. No. 0; Matches 3247; Conservative 0; Mismatches 53; Indels 0; Gaps 0;	Qy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	61 GTCAATTCAGGGTGAATGTGAAACCAGTATACGATGTGCCAGGAGAAAACAGTATACGATTTCTGCCAGAAAAACAGTGCCGGGTGGTGAACCTGGTATACGATGTGCGGGTGAATGTCGCCAGGTGAACCTGGTGAACCAGGCCAGCCA	181 CGCGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC	241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC	301 ACGGCCGTCGCAATTGTCGCGCCATTAATCTCGCGCCGATCAACTGCGCGCCGCGCGCG	st. regitestictatestraaaceaecescotteaaecergisaaecegegegegegegegegegegegegegegegegegeg	Qy 421 TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCGCTGGATGACCAGGATGCCA 480 L	Qy 481 TTGCTGTGGAAGCTGCACTAATGTTCGGCGTTATTTCTTGATGTCTCTGACCAGA 540 Db 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540	Oy 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACATC 600	Qy 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTCTCGG 660 Db 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTCTCTC	Qy 661 CGCGTCTGCGTCTGGCTGGCCATAAATATCTCGCAATCAAATTCAGCCGATAG 720 Db 661 CGCGTCTGGCTCTGGCTGGCTGAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720	Qy 721 CGGAACGGGAACGCGACTGCACTGCCGGTTTTCAACAAACCATGCAATGCTGA 780 Db 721 CGGAACGGGACTGGACTGCCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780	Qy 781 ATGAGGGCATCGTTCCCACTGCGATGCTGCTTGCCAACGATCACGTCACGGCGCTGCGCGCAA 840 Dh 781 ATGAGGGTGCTGCTACTCAATGCGATGCTTCATCCTACCATCACTCATCACTCCTAA 840	841 TGGGGGCGATTACCGAGTCGGGGTGGGGGTGGGGATATCTCGGTAGTGGGATATACGGGATATACGGATATACGGATATACGGATATACGGATATACGGATATACGGATATACGGATATACGGATATACCGAGTTGGGGTTGGTGGGGATATACTCGGTAGTAGAGATACGGATATACGGAGTTGGGGTTGGTGGGGTTAGTGGGGATATACTCGGTTAGTGAGATACTCGGATAGATA	Oy 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACATCAAACAGGATTTTC 960 Db 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	Qy 961 GCCTGGGGGAAACCAGGGTGGACGCTTGCTGCAAACTCTCTCAGGGGCCAGGGGGTGA 1020

8 8 8 8 8 8 8 8 8 8

음 수 음

के ते के त

Qy 3181 CCAGAATGTGGCAAGTCTTTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC 3240 Db 3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCGGTC	AX202428 Sequence 1 AX202428 AX202428.1	ORGANISM synthetic construct REFERENCE 1 AUTHORS Barbas, C.F., Stege, J.T., Guan, X. and Dalmia, B. AUTHORS Barbas, C.F., Stege, J.T., Guan, X. and Dalmia, B. TILLE Methods and compositions to modulate expression in plants JOURNAL Patent: WO 0152620-A 16 26-UUL-2001; The Scripps Research Institute (US); SYNGENTA AGRICULTURAL DISCOVERY, INC. (CA) FRATURES Location/Oualifiers 1. 3300 Authorize 13300	/mol_type="unassigned DNA" /db_xref="taxon:32630" /note="PArtial sequence of pMal-m3 and zinc finger protein ZFPm3" Query Match 97.2%; Score 3207.2; DB 6; Length 3300;	Matches 3242; Conservative 0; Mismatches 58; Indels 0; Gaps 0; Qy 1 CCGACACCATGGAGGGCAAAACCTTTGGGGTATGGCATGATAGGGCCCGGAAGAG 60	61 GTCALTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	DB 181 GGCGGGAAAAAGTGGAAGCGGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	
101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACATGAATGCAGACACCGATTAC 2160	CCTTC CCTTC CCTTC CCAGT CCAGT	2341 CCGAACAAAGACTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGAAGGTCTG 2400 2341 CCGAACAAAAGACTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGAGGGTCTG 2400 2401 GAAGCGGTTAATAAAGACAAACGGTGGGTGGCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 2401 GAAGCGGTTAATAAAGACAACCGCTGGGTGCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 2401 GAAGCGGTTAATAAAGACAACCGCTGGGTGCGTAGCGCTGAAGTCTTACGAGGAAAGG 2460 2461 TTGGCGAAAATCCACATTTGCCGCCCCCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 2461 TTGGCGAAAAATCCACGATATTGCCGCCACTGAAAACGCCCAGGAAAGGTGAAATCATG 2520	ACGCC 2 ACGCC 2 ACGCC 2	AACAACAACAACAATAACAATAACAACCTGGGGATGGAGGGAAGGATTTCAGAATTC	AC GG GG B	CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC [3001 CCCTATGCTGGGGAATGTGGGGAAGCCTTCTCTCGGGGGGATAACCCTGGTGGCCCC 3060 3001 CCCTATGCTTGTCGGGAATGTGGTAAGTCCTTCTCTCGGGGCCCACCTGGTGCGCCCC 3060 3061 CAGCGTACCCACGGGTGAAAAACCGTATGAATGCCCAGAGTGCGGCAATCTTTTAGC 3120 3061 CAGCGTACCCACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGCCAAATCTTTTAGC 3120 3121 CAGGCCGGCCACCACGGCCATCAACGGCATACAAATGT 3180 1121 CGCAGCGGATAAACCTGGCCATCAACGCCATCATACTGGCGAGAAGCCATACAAATGT 3180 1121 CGCAGCGATAAACCTGGCCCATCAACGCCATCATACTGGCGAGAAGCCATACAAATGT 3180

1521 ACCCCANTTANACTCACCTTCACCATCACCATANACTCGANGAANTTCCCCACGCTT 1660 1581 ACCCCANTTANACTCACCCTTCACCATCACCATCACCACACACCACACCAC	2581 GCCAGCGGTCGACGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 [
ATC 6 ATC 6 ATC 6 ATC 6 ATC 6 ATC 6 ATC 7 AT	AACAGCCAGTCCGTTTTAGGTGTTTTCACGA 1500 QY AAAACTGAAGAAGGTAAACTGGTAATCTGG 1560 DAAACTGAAGATAACTGGTAATCTGG 1560 DY GTGAAGTCGGTAAGTAACTGGAAAGAT 1620 DS GTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620 DS GTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620 DS GTGAAGTCGGTAAGAAATTCCAAGAAAGAT 1620 OY
St. CACCCATCAACAGTATTATTTTTTCCCAATGAACAGTACTGCCATTGCCCATCAACAGCTCCAACACCACCAACACCACCAACACCACCAACACCACC	1441 ATTGTGAGGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTATTCACGA 1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1561 ATTAACGGCGATAAAGGCTATAACGGTCGCTGAAGTTCGGTGAATTCGAGAAGAT 1561 ATTAACGGCGATAAAGGCTATAACGGTCCGCTGAAGTCGGTAAGAATTCGAGAAGAT 1561 ATTAACGGCGATAAAGGCTATAACGGTCCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAAAT

AKEFLENYLLTDEGLEAVNKDKPLGAVALKSYEEELAKDPRIAATWENAQKGEIMPNI POMSAFWYANYTAAVINAASGROTVDBALKDAQKOSSNNNNNNNNLGIEGRISEFG SSSPGKPPRLVGGPWDASVEEEGVRRALDPAVGSNNNNNNNNLGIEGRISEFG SSSPGKPPLVGGPWDASVEEGGWRALDPAVGSNNNNNNNNNLGIEGRISEFG AGVNYFLDVELGRFTTKTOPNLDNCPFHDOPHLKKRAFGSFQIYAPWQGTWTLSKS TCQDPASAGHHHHHHGAETAQAKHKQRKRLKSSCKRHPLYVDFSDVGNNDWYAPPGYH APYCHGECPFPLADHLNSTNHAIVQTLVNSVNSKIPKACCVPTELSAISMLYLDENEK VULKNYQDMVVEGGGR* Wisc_feature AVLKNYQDMVVEGGGR* Note="Paktor Xa Protease /position=388 (AMINO ACIDSequenz)* misc_feature 3067. 3108 // Note="/spacer zwischen Cystatin C und BMP-2"	Query Match 82.0%; Score 2705.8; DB 6; Length 7373; Best Local Similarity 99.2%; Pred. No. 0; No. 0; Matches 2719; Conservative 0; Mismatches 22; Indels 0; Gaps 0; Qy 1 CCGACACCATCGAAAGCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAG 60 Db 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAG 60	Oy 61 GTCAATTCAGGGTGGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	QY 181 GGGGGAAAAAGTGGAAGCGGGGAGCTGAATTACATTCCCAACCGCGGGCC 240 Db 181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 QY 241 AACAACTGGCGGCAAACAGTGCTTGTTTGGCACTTCCCACCTCCAGTCTTGCCCTGC 300 Db 241 AACAACTGGCGGCAAACAGTGGTTGCTGATTGGCCCTGC 300 Db 241 AACAACTGGCGGCAAACAGTGGTTGCTGATTGGCCACCTCCAGTCTGGCCTTGC 300	QY 301 ACGCGCCGRAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 Db 301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 QY 361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGTAAAGCGGCGGTGCCAAATC 420 Db 361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCGCGGTGCACAATC 420 QY 421 TTCTCGCGCAACGCTCAAGAGCGCTCGAAGCCGCTGGATGACCAAGATC 420 DA 421 TTCTCGCGCAACGCTCAGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480	. 4 4 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ט-ט ט-ט א-א א-א
	ANGICITICICCICGGTCTGACAATCTCGTCCGCACCAACGTACTCACACCGGGGAGAAG	CAGGGTACCCACAGGGTGAAAACCGTATAATGCCCAGAGTGGGGCAATCTTTTAGC 3 [TCAC 32 TCAC 32 CGCT 33	SULT 6 284144 208 284144 CUS AX284144 T373 bp DNA linear PAT 20-NOV-200: ESSION AX284144 AX284144. GI:17044832 FWRCES Synthetic construct PRGANISM synthetic construct		/ Organisms Synchetic Construct. / Mol type="unassigned DNA" / db xref="taxon:32630" / noTe="Expressionsvektor pMalc2cchbmp2" 1528 . 1453 / note="unnamed protein product; / produkt=Fusionsprotein / codon statin C BMP-2" / codon statin C BMP-2" / codon statin C BMP-2" / transl table=11 / protein id="(able=1) / protein id="(able=1) / protein id="(able=1) / fransl table=11 / kransl table=

1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGTGATGTTCAAC 1980	1981 2041 2041	2101	2161 T 2161 T	2221 GCATGGTCCAACATCGACACAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 228	2281 AAGGGTCAACCATCCAAACCGTTGGTTGGCGTGCTGAGCGGAGGTATTAACGCCGCGGTTTACGCCGCGGTGTTGTTGTTGTTGGTTG	y 2341 CCGAACAAAAGCTGCCAAAAGGTTCCTCCAAAACTATCTGCTGACTGA	2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2 	2461 TTGGCGAAAATCCAGTATTGCCGCCACCATGGAAAGGCCCAGAAAGGTGAAATCATG 2 	2521 CCGAACATCCCGCAGATCTCCGCTTTCTGGTATGCCGTGCCTACTGCGGTGATCAACGCC	2581	2641 AACAACAACAATAACAATAACAACAACAACCTCGGGATCGAC	y 2701 GGATCCTCTTCCTCTGGCCCGGGGCCGG 2741 2701 GGATCCTCCGGCAAGCCGCGGCTGGTGGGAGG 2741		ION AX172306 N AX172306.1 DS	SOURCE Synthetic construct ORGANISM synthetic construct other sequences; artificial sequences.	AUTHORS Goubin-Gramatica, F., Ducommun, B. and Prevost, G. TITLE Method for obtaining human cdc25 phosphatases and method for identifying human cdc25 phosphatase modulators JOURNAL Patent: WO 0144467-A 5 21-JUN-2001; SOCIETE DE CONSEILS DE RECHERCHES ET D'APPLICATIONS SCIENTIFIQUES
QY 1	ACGATACCGAAGCGCTGATATATCCCGCCGTTAACCACCATCAAGGGCTTTTC 960 GCCTGCTGGGGCAACCAGGGGGGGGGGGGGGGGGGGGGG		GGTTT 	ATTAG 120 ATTAG 120	rggcg 1260	1261 TCAGGCAGCCATCGGAAGCTGTGGTGGTGGTGGTCGTAAATCACTGCATAATTCG 1320	138 198	OY	0y 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 DD 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500	1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGGAAG	1620 1620	097 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGATAAACTGGAAGAGAATTCCCACAGGTT 1680	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCCACGCTTTGGTGGCTAC 1740	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTTAT 1800 V V V V V V V V V V V V V V V V V V	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860	GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAACCTGGGAA 1920

901 ACGATACCGAAGACAGGTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	1021 AGGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAAAAAAA	1081 GGCAAACCGCCTCTCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1140	1141 CCCGACTGGAAAGCGGGCAACGCAATTAATGTGAGTTAGCTCACTTAG 1200 	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260	1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 	1441 ATTGTGAGGGGATAACAATTTCACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 	1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560 	1561 ATTAACGGCGATAAAGGCTATAACGGTCCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGGTT 1680 	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGGGTTCCAGGACAAGCTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 	1921 GAGATCCCGCGCTGGATAAAGAACTGAAAGGTAAGGTAA
8 6 8 6	\$ B	& 8	è a	oy do	oy Q	S q	oy op	Oy Pb	පි රි	& a	ò 8	상 옵	රු පු	රු පු	% d	ò a ò

ES Location/Qualifiers ource / 0.9anism="synthetic construct" /mol_type="unassigned DNA" /db_xref="taxon:32630" /note="souche JM109 / pMAL - Hs Cdc25C"	Query Match Best Local Similarity 99.9%; Pred. No. 0; Matches 2707; Conservative 0; Mismatches 2; Indels 0; Gaps 0;	TATGGCATGATAGCGCCCGGA 		GCGAAAA GCGAAAA	181 CGCGGGAAAAGGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240		TCAACTGGGTGCCAGCG	ACAATC	4 4 8 8	ACCAGA ACCAGA	AGCATC		CGATAG CGATAG	rgcrga 	GCGCAA	SATACG
FEATURE BO ORIGIN	Que Bess Mat	දු පු	දු පු	දු දු	දු පු	දු දු	දු දු	કુ	රු සි	& 8	<u>ک</u> ۾	දු පු	& A	& 8	중 음	λ a .

/note="Plasmid pMAL-c2x"	Query Match 81.8%; Score 2701; DB 6; Length 6648; Best Local Similarity 99.8%; Pred. No. 0; Matches 2704; Conservative 0; Mismatches 5; Indels 0; Gaps 0;	Oy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	Qy 61 GTCAATTCAGGGTGGTGAATGTGAAACCATAACGTTATACGATGTCGCAGAGTATGCCG 120 Db 61 GTCAATTCAGGGTGGTGAATGTGAAACGTTATACGATGTCGCAGAGTATGCCG 120	Qy 121 GTGTCTCTTATCAGACCGTTCCGCGTGGTGAACCAGGCCAGGCCAGGTTCTGCGAAAA 180 L	Qy 181 CGCGGGAAAAGTGGAACGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 Db 181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	QY 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC 300 Db 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC 300	Qy 301 ACGCGCCGTCGCAAATTGTCGCGGGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 bb 301 ACGCGCCGTCGCAAATTGTCGCGGGGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360	Qy 361 TGGTGGTGTCGATGGTAGCAAGCGGGGGGGGGGGGGGGG	Qy 421 TTCTCGCGCAACGCGTCAGAGGCTGATCATTAACTATCGCTGGATGACCAGGATGCCA 480 Db 421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480	0y 481 TTGCTGTGGAAGCTGCCTGCACTAATTCCCGGGGTTATTTCTTGATGTCTCTGACCAGA 540 bb 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGGGTTATTCTTGATGTCTCTGACCAGA 540	Oy 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC 600	Qy 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGCCCATTAAGTTCTGTCTCGG 660 LILLIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Oy 661 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720	Oy 781 ATGAGGGATCGTTCCCACTGCGATGCTGCCAACGATGGCGCTGGGCGCAA 840	841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG	DD 841 TGGGGGCCATTACCGAGGTGGGGGTGGGTGGGGGTAGTGGGGATACG 900 901 ACGATACCGAAGACAGCTCATGTTATATCCGGGGTTAACCACATCAAACAGGATTTTC 960	Db 901 ÁCGATÁCCGAÁGACAGCTCATGTTATÁTCCGCCGTTAÁCCACCATCAAACAGGATTTTC 960 Qy 961 GCCTGCTGGGGCAAACCAGGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGGGGTGA 1020	
Db 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCACGGGGGTTATGCGTTCAAG 2040	Qy 2041 TATGAAAACGCAAGTACGACATTAAAGACGTGGGGGGGTGGATAACGCTGGCGGGAAAGC 2100 bb 2041 TATGAAAAGGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGGGAAAGC 2100	OY 2101 GGTCTGACCTTCCTGGTTGACTGATTAAAAACAAACACATGAATGCAGACACCGATTAC 2160	Qy 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 Db 2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCGTGG 2220	Oy 2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGAACGGTACTGCCGACCTTC 2280	OY 2281 AAGGGTCAACCATCCAAACCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT 2340	OY 2341 CCGAACAAAGAGTGGCAAAAGAGTTCCTCGAAAACTATCTGGTGACTGATGAAGGTCTG 2400	Qy 2401 GAAGCGGTTAATAAAGACAAACGGCTGGCGGTGCGGTGAGGGTGTTACGAGGAAGAG 2460 	OY 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	Qy 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	OY 2581 GCCAGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	OY 2641 AACAACAACAATAACAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700	Oy 2701 GGATCCTCT 2709 Db 2701 GGATCCTCT 2709	RESULT 8 AX377531 LOCUS DETINITION Sequence 8 from Patent W00212553. ACCESSION AX377531 G 19573717 KEYWORDS	_	LE Kappel,A., Polakowski,T., Pignot,M., Windhab,N., Behr Muth,J.	TITLE Method for defecting mutations in nucleotide sequences JOURNAL Patent: WO 0212553-A 8 14-FEB-2002; Nanogen Recognomics GmbH (DE) FEATURES Location/Oualifiers	rce	

OY 2101 GGTCTGACCTTCCTGGTTGACTTAAAAACAAACGAATGAAT	OY 2161 TCCATGGCAGAAGCTGCCTTTAATAAAGGCGAAACAGGGATGACCATCAAGGGCCGGTGG 2220 Db 2161 TCCATGGCAGAAGCTGCCTTTAATAAGGGGAAACAGGGATGACCATCAAGGGCCGTGG 2220	OY 2221 GCATGGTCCAACATCGGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 Db 2221 GCATGGTCCAACATCGACAAGTGAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280	QY 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGGTGGCGGCGGGTATTAAGGCCGCCAGT 2340	OY 2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	Qy 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	Qy 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	Qy 2521 CGGAACATCCCGCAGATGTCCGCTTCTGGTATGCCGTGCGGTGCGGTGACTGCGGTGCGC 2580 Db 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTG	Qy 2581 GCCAGCGGTCGTCACACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 Db 2581 GCCAGCGGTCGTCACACTGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640		Oy 2701 GGATCCTCT 2709 Db 2701 GGATCCTCT 2709	7475 bp	N111UN Sequence 1 from Patent SSION A91965 1 GI:6740811 ORDS .	-	AUTHORS Attwood, M.R. and Hurst, D.N. TITLE ANTIVIRAL PEPTIDE DERIVATIVES JOURNAL Patent: WO 9822496-A 1 28-MAY-1998; HOFFWANN LA ROCHE (CH)	FEATURES Location/Qualifiers source 1. 7475 /organism="unidentified"	/mol_type="unassigned DNA" /db_xref="taxon:32644"	Query Match 81.8%; Score 2700; DB 6; Length 7475; Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	Qy 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60
	CGCAAACGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCGCTCTCCCCGCGCTTGCTT	ATTAG	71 1960 1960 1960 1960		1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGG 1440 	1441 ATTGTGAGGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 	TCTGG 	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680 		1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCGTGT 1800 	1801 CCGITTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGGCCAAAACCTGGGAA 1920 	CAAC			2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGGATAACGCTGGGGGGAAAGCG 2100

181 CGCGGGAAAAACTGGAAGCGGCGATGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 241 AACAACTGGCGGCGAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC 241 AACAACTGGCGGGCAAACAGTGGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC 300 241 AACAACTGGCGGGCAATTGTCGCGGTTGCTTGGCGTTGCCACCTCCAGTCTGGCCTTGC 300 301 ACGCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 361 TGGTGGTGCGAAGTGAACGAAGCGGATTAAATCTCGGGCGCGCGGTGCAGCG 361 TGGTGGTGCGAAGTGAACAGAAGCGGCGATCAAAGCGGCGGCGCAGCG 361 TGGTGGTGCGAAGAACAAACTGCGAACTCAAACCGGGGGGGTGCACAACTC 1111111111111111111111111111111				61 GGGTCTGGGTGGCTGGCGTGTGTGTGTGTGGGGGCCCATTAGTTCTGTTTGG 60 TGGTCTGGCTTGGCTGGAAATCGCGCTGTTAGCGGGCCCATTAGTTTTTGTTTTGG 60 TGGTCTGGCTTGGCTGGAAATCGCGCTGTTAGCGGCCCATTAGTTTTTTTT	661 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCÄCTCGCÄATCÄÄÄTTCÄĞCCĞATÄĞ 720 721 CGGAACGGGAAGGGGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780 721 CGGAACGGGAAGGCGACTGGAGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780		841 IGCGCCCATTACCGAGTCCGGCGTTGCGTGGTGCGGATATCTCGGTAGTGGGATACG 900 	901 ACGATACCGAAGACTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960 	961 GCTGCTGGCGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGGGGTA 1020 	1021 AGGGCAATCACTGTTGCCCGTCTCACTGGTGAAAAAAAAA	1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGGTTT 1140	1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCA	1201 GCACAATTCTCATGTTTGACAGCTTATCATGGACTGCACGGTGCACCAATGCTTCTGGCG 1260 	1261 TCAGGCACCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
4 6 4 6 4 6	do yo	76 A	oy da	of of	8 6 8	ò q	Oy Dp	o o	oy O	\$ 9d	ò q	<i>8</i>	\$ A	\$ g
QY 2221 GCATGGTCCAACATCGACACCAGCAAATTATGGTGTAACGGTACTGCCGACCTTC 2280 Db 2221 GCATGGTCCAACATCGACACCAGCAAATTATGGTGTAACGGTACTGCCGACCTTC 2280 QY 2281 AAGGGTCAACACCATCGTTGGCGTGCTGAGCCAGGTATTAACGCCGCAGT 2340 Db 2281 AAGGGTCAACACATCGTTGGTTGTTGTTGTTGGCGAGGTATTAACGCCGCAGT 2340 QY 2341 CCGAACAACAGCGCAAAAGGTTCCTCGAAAACTATCGCTGAGGCAGTTTAACGCCGCCAGT 2340 Db 2341 CCGAACAAAAGAGTTCCTCGAAAACTATCTGCTGATGAAGGTTTG 2400 Db 2341 CCGAACAAAAGAGTTCCTCGAAAACTATCTGCTGATGACTGATGAAGATTTT 2400	2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 	QY 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAAGGTGAAATCATG 2520 QY 2521 CCGAACATCCGGAAAGTCCGCTTTTCTGGTATTGCGTAATGCGTAATGAAAAAAAA	2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTCGGTGATCAACGCCCCCGCCGTGCGTCGTCAACGCCCCCCGCGCAGAAAGACGCCCCCGAGAAAAACGCCCCGAGAAAAAA	Db 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 Qy 2641 AACAACAACAACAATAACAATAACAACTCGGGATCGAGGAAGGA	RESULT 10 AR031992 AR031992 7475 bp DNA linear PAT 29-SEP-1999 DEFINITION Semisore 1 from material 10 500000	AR031992 AR031992.1 GI:5946281 Unknown.	ORGANISM Unknown. Unclassified. REFERENCE 1 Chases 1 to 7475) AUTHORS Attwood, M. Richard., Hurst, D. Nigel., Jones, P. Stephen.,	Kay, P. Britta Peptidyl inh Patent: US 5 Loc	source 17475 /organisme"unknown" /mol_type="unassigned DNA"	Query Match 81.8%; Score 2700; DB 6; Length 7475; Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gans 0;	SCIGCAAACCITICGCGGTAIGGCAIGAIAGCGCCCGGAAGAGA 60	16CCG		

QY 2401 GAAGCGGTTAATAAAGACCAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 DD 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGG 2460 QY 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAACGCCCAGAAAGTCATG 2520 DD 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAACGCCCAGAAAGTGAAATCATG 2520 QY 2521 CCGAACATCCCGCAGTTTCTGGTATGCCGTGCTACTGCGGTATCAACGC 2580 DD 2521 CCGAACATCCCGCAGTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580 QY 2521 CCGAACATCCCGCAGTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580 QY 2581 GCCACCGGTCGTCAGATGTCGATGAAGCCCTGAAAGACGCGGAGTTAATTCGAGTCC 2580 QY 2581 GCCACCGGTCGTCGATGATGAAGACCTGAAAGACGCGCAGACTAATTCGAGCTCC 2640 DD 2581 GCCACCGGTCGTCGATGATGAAGACCTGGAGGAGAGGAG	RESULT 11 AR207294 AR207294 LOCUS DEFINITION Sequence 1 from patent US 6372883. ACCESSION AR207294.1 GI:21506162 KEYWORDS SOURCE Unknown. ORGANISM Unclassified.	NCE ORS E NAL NAL ES ource	Ouery Match Query Match Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 1 CCGACACCATGGAATGCTGCAAAACCTTTCGCGGTATGGCATCATAGCGCCCGGAAGAG 60	GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG [0
1321 TGTCGCTCAAGGCGCACTCCGGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACCTCCGGTTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCCCCCGTTTTTTGCGCCGACATCATAACGGTT 1380 1381 CTGGCAATATTCTGAATGACGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 140 141 1	ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCC	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTTTT 1800 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAGAAGCGTTTCCCGGACGAGCTGTT 1860	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGGCTGATGTTCAAC	TATGAAAACGCCAGACTTAAAGACGTGGGCGTGGATAACGCTGGCGAAAGCG GGTCTGACCTTCCTGGTTGACCTGGTGGGCGTGGGCTGACGCGCGAAGCG GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAAA	

ಹ

1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAAATTCCCACAGGTT 1680

윱

8 6 े

8 6 8 6 8 6 8

8 8 8

윰 ò 셤 ò 8 ò g à 요 ò a ò 셤 ઠે 요

셤 ò

ò g

g ઠે

δ

```
1528. .2994
/gene=malE:
/codon start=1
/cransl_table=11
/product="mallucose binding protein"
/product="mallucose binding protein"
/protein id="AAC8313.1"
/db_xref="GI:398313.2"
/db_xref="GI:398313.2"
/translation="MXIBEGKLVWINGDKGYNGLAEVGKKFEKDTGIRVTVEHPDKL
EEKFPQVAATGOGPDIIFWAHDRFGGYAGGGLIAETTPDKAFGDKLYFFTWDG
LIAANFIAGGGYAFKYENGKYDIKOVGYDNAGAKAGLTFUVDLIKOKHWADTDYSTRAAF
NKGETAWTILTDEGLEAVNKDKPLGAVALKSYEEELAKOPRIAAGNIKATBAFAF
NKGETAWTINGPAAWSNITSKVNYGYTULPTFKGQPSKPFVGVLSAGINAASPNKEL
AKEFLENYLLTDEGLEAVNKDKPLGAVALKSYEEELAKOPRIAATANGNGKEINNI
POWASHWYARTAYNTAAAGRQTVDFALKAGAGTSSNNNNNNNNNIGIDTTENLYF
QGAMDPEFKGLRRRAQLVRPELSNLEPAVSHAAVPSLALGATTENLYF
QGAMDPEFKGLRRRAQLVRPELSNLEPAVSHAAVPSLALGAVULQRRDWENDGVTQLNRL
                                                  DNA circular SYN 28-JAN-2002 complete sequence.
                                                                                                                                                                                                                                                                                          Sheffield, J., Garrard, S.M. and Derewenda, Z.S.
Sheffield, D., Garrard, S.M. and Derewenda, Z.S.
Direct Submission
Submitted (05-007-1998) Molecular Physiology and Biological
Physics, University of Virginia, 4215 Jordan Hall, 1300 Jefferson
Park Avenue, Charlottesville, Virginia 22908, USA
Location/Qualifiers
                                                                                                                                                                                                                   RhoGDI using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="Tobacco etch virus protease cleavage site"
2711. .2810
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Expression vector pMBP-parallell"
/mol_type="other DNA"
/db_xref="taxon:84479"
204. 1163
                                                                                                                          Expression vector pMBP-parallell
Styression vector pMBP-parallell
other sequences; artificial sequences; vectors.

(bases 1 to 6724)
Shefiteld, P., Garrard, S. and Derewenda, Z.
Overcoming expression and purification problems of lamily of 'parallel' expression vectors.

Protein Expr. Purif. 15 (1), 34-39 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1453. .1481
//note=="tac; inducible promoter"
1528. .2994
/gene="malE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note="protein spacer region"
1689. .2709
| gene="malE"
                                                Expression vector pMBP-parallell, AF097412
                                                                                             GI:3983120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2633. .2688
/gene="malE"
                                                                                           AF097412.1
                                             AF097412
                                                                                                                                                                                                                                                                               10024467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             promoter
                                                          DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                            ORGANISM
                                                                                                                                                                                          AUTHORS
TITLE
                                                                                                                                                                                                                                         JOURNAL
MEDLINE
PUBMED
PUENCE
AUTHORS
TITLE
JOURNAL
            RESULT 13
AF097412
                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDS
                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDS
GCGCCAACTGGCCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740
                   1800
                                                                                                                                                                                                          1920
                                                                                                                                                                                                                                                                        1980
                                                                                                                                                                                                                                                                                                                                        2040
                                                                                                                                                                                                                                                                                                                                                                         2040
                                                                                                                                          1860
                                                                                                                                                                                                                             1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                         1980
                                                                                                                                                                                                                                                                                                                                                                                                         2100
                                                                                                                                                                                                                                                                                                                                                                                                                                        2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2161 TCCATCGCAGAAGCTGCCTTTAATAAGGCGAAACGGCGATGACCATCACCGCCGTGG 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                           GCTCAATCTGGCCTGTTGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                   GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                     CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGGTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                          CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                              TATGAAAACGGCAAGTACGACATTAAAGACGTGGGGGTGGATAACGCTGGCGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                      TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2461 TIGGCGAAAGAICCACGIATIGCCGCCACIAIGGAAAAGGCCCAGAAAGGIGAAAICAIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGAACATCCCGCAGAIGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2581 GCCAGCGGTCGTCGACGGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2641 AACAACAACAATAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ||||||
|GGATCC 2706
                                                              1741
                                                                                             1741
                                1681
                                                                                                                                 1801
                                                                                                                                                                 1801
                                                                                                                                                                                                1861
                                                                                                                                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                                                 1981
                                                                                                                                                                                                                                                                                                                                                                                                2041
   1691
                                                                                                                                                                                                                                                                1921
                                                                                                                                                                                                                                                                                                                                1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2701
```

Wed

```
1680
                                                                                                                                                                                                                                                                                                                                         1200
                                                                                                                                                                                                                                                                                                                                                                    1200
                                                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                                                                                                             1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1860
                                                                                                                                                                                       1020
                                                                                                                                                                                                                1020
                                                                                                                                                                                                                                        1080
                                                                                                                                                                                                                                                                1080
                                                                                                                                                                                                                                                                                                                1140
                                                                                                                                                                                                                                                                                                                                                                                                                    1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1800
                                    840
              780
                                                             840
                                                                                                                                                              960
                                                                                      900
                                                                                                            900
                                                                                                                                     960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT
                                                 TGCGGGCCATTACCGAGTCCGGGCTGGGCGTTGGTGCGGTATCTCGGTAGTGGGATACG
                                                                                                                                                  GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                      AGGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAAGAAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                      GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          crescapatatricreaaargagcrerreacaarraarcarcegcresraargrerea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGCTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGGCAACTGGCGATGGCCCTGACATTATCTTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
              CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                     ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                             recedecearraceaareceaerececreerrecreesaararerecaracreearace
                                                                                                                                     ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                        GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                        AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                         CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                              GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCACTTCACCAACAAGACCATAGATTATGAAAATCGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1801
                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1741
                                                             781
                                                                                                               841
                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1501
                                       781
                                                                                      841
                                                                                                                                                                                                                961
              721
                                                                                                                                     901
                                                                                                                                                                                        961
                                                                                                                             상
                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                     & g
                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                            원 상
                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B & B &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 B 8
              8 8
                                                     g
                                                                                                          Db
                                                                                                                                                                                                        පු
                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                   ∂
                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                             ò
                                                                                                                                                                                     ò
                                                                                  /codon start=1
/transl_table=11
/transl_table=11
/product=*beta=1actamase"
/product=*beta=1actamase"
/product=*id=*ads3814.1"
/db_xxef=*ad:3983123"
/translation=*MSIQHFRVALIPPFAAFCLPVFAHPETLVKVKDAEDQLGARVGY
IELDLMSGKILESFRPEERSPWMSTFKVLLCGAVLSRVDAGGEQLGARIHYSQNDLVE
YSPVTEKHLTDGMTVRELCSAAITMBONTAANLLLTIGGFKELTAFLHNMGDHVTRL
DRWEPELNEAIPNGERTTTMPVAMATTLRKLITGGFKELTAFLHNMGDHVTRL
LRSALPAGWFIADKSGAGGERGSRGIIAALGPDGKFSRIVVIYTGSQATWDERNRQIA
                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                        GTGTCTCTTATCAGACCGTTCCCGCGTGGTGGACCAGGCCACGCTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGGAAGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGCTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGTCTGCGTCTGGCTGGCTGGCAAAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                    CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                        GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                      CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                    6724;
                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                    12;
                                                                                                                                                                                                                                                                             3;
                                                                                                                                                                                                                                                    BB
  cloning site"
                                                                                                                                                                                                                                                  2676.2;
No. 0;
                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                    Score Pred. 1
/note="multiple c
3426. .4356
/gene="bla"
3426. .3454
/gene="bla"
/gene="bla"
                                                                                                                                                                                                                                                    81.1%;
99.9%;
                                                                                                                                                                                                              EIGASLIKHW
                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                Local Similarity
tes 2678; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                        19
                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                    promoter
                                                                                                                                                                                                                                                                 Best Loca
Matches 2
                                                             CDS
                                                                                                                                                                                                                           ORIGIN
```

요

ठे

ઠે

8 8

g

8 6

8 6

ઠે

8 S

6666

<u>ል</u> ይ

6 B

Ω કે

JOURNAL Patent: WO 0206306-A 194 24-JAN-2002; PEATURES LOCATION/Qualifiers SOURCE / Organism="unidentified" / mol_Cype="unassigned DNA" / db xref="taxon protein comprising a maltose binding protein with 125 amino"	Query Matc Best Local Matches 26	Db 1 CCGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGGCCCCGAAGAGA 60 Qy 61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGATGTCGC 120	121 181 181	AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC	301 361 361 421	Db 421 TTCTGGGAACGCGTGATGATGATGATGATGATGATGATGATGATGATGCCA 480 QY 481 TTGCTGTGGAAGCTGCCTGCACTAATTCCGGGGTTATTCTTGATGTCTCTGACGATGCCA 540 Db 481 TTGCTGTGGAAGCTGCCTGCACTAATTCCGGGGTTATTTCTTGATGTCTCTGACGAGA 540 A81 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACGAGA 540		601 661 661 721 721	Oy 781 ATGAGGGGATCGTTCCCACTGCGATGCTGCTACGATCAGATGGGGCCTGGGCGCAA 840 Db 781 ATGAGGGATCGTTCCCACTGCGATGCTGCTAGATGAGGCGCTGGGCGCAA 840 Db 781 ATGAGGGATCGTTCCCACTGCTGCTGCTGCTAGATGCGGCGCAA 840 Oy 841 TGCGCGCCATTACCGAGTCCGAGTCCGGCGTTGCTGCGGATATCTCGGTAGTGGGATACG FILITITITITITITITITITITITITITITITITITITI
	. 1981 2041 2041	QY 2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAACACATGAATGCAGACACCGATTAC 2160 Db 2101 GGTCTGACCTTCCTGGTTGATTAAAAACAACATGAATGCAGACACGATTAC 2160 QY 2161 TCCATGCAGAAACTGCATAAAAGGCCAAACAGCGATGACCGATCAACGCCGTGG 2220 Db 2161 TCCATGCAGAAACTTTAATAAAGGCGAAACAGCGATGACACGCGTGG 2220	2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC	2281 AAGGGTCAACCATCCAAACCGTTCGCGTCCTGACCGCAGTATTAACG 2341 CCGAACAAAGGCTGGCAAAAGAGTTCCTCGAAAAACTATCTGCTGATGA 2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAAACTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGT	Oy 2401 GAAGCGGTTAATAAAGACAAACGGTGGGTGCCGTAGGGCTGAAGTTTACGAGGAAGAG 2460 Db 2401 GAAGCGTTAATAAAGACAACGTGGCGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 Oy 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 Db 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAAATCATG 2520	CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTG	Db 2581 GCCAGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	AX378208 LOCUS LOC	ம்ல

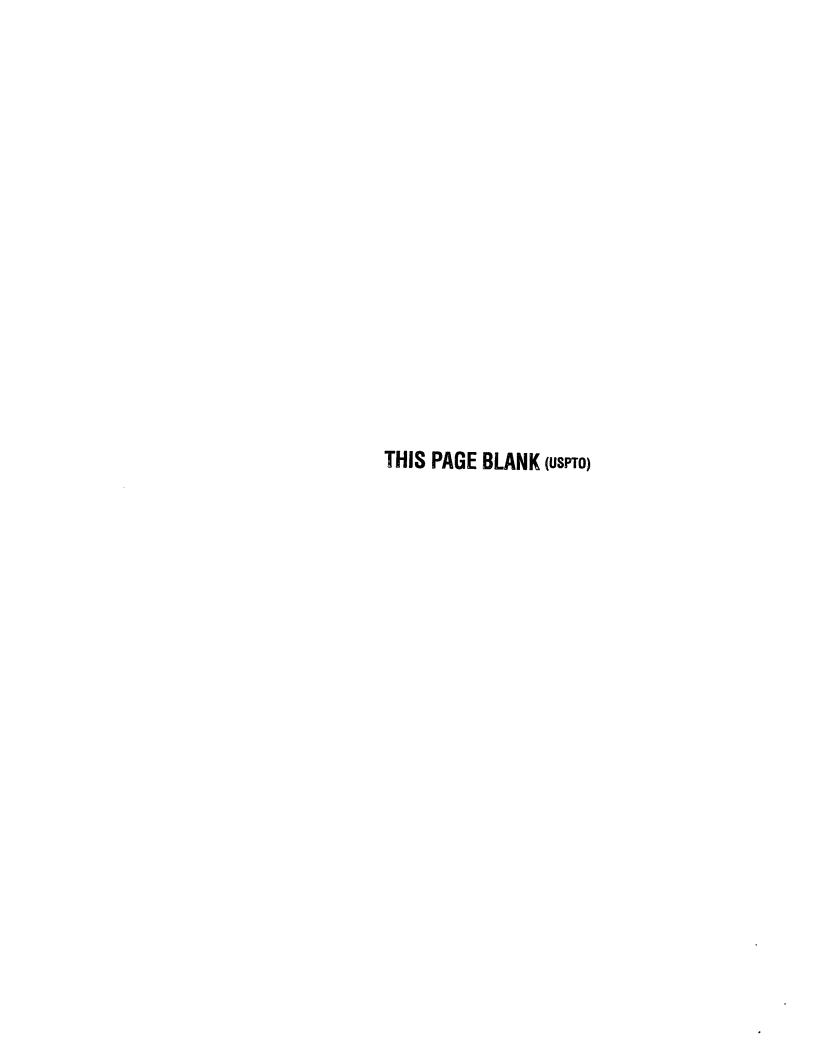
1991 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCGTTCAAG 2040 1991 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCGTTCAAG 2040 2041 TATGAAAACGGCAAGTACGACTTTAAAAACGTGGCTGGATTAACCTGGCGCGAAACGC 2100 2041 TATGAAAACGGCAAGTACAACTGATTAAAAACACAACTGAAACACGCGAACACCGATTAC 2160 2041 TATGAAAACGCCAAGTACAACTGATTAAAAACAACAACAACAACAACAACAACAACAACAACA	RESULT 15 AF031088 AF031088 AF031088 AF031088 AF031088 ACCESSION ACCESSION ACCESSION AF031088.1 GI:2623821 KEYWORDS SOURCE SOURCE SOURCE AUTHORS AUTHO
### 1 TGCGGCGATTACCGAGTCCGGCTGCGCGATATCTCGGTAGTGGGATACG 900 901 ACGATACCGAGCAGCCGCTAGTTATATCCGGCGGTAACCACCAACAACAGGATTTC 960 902 ACGATACCGAACAGCAGCTCATGTTATATCCGGCGTTAACCACCAACAACAGGAGTTTTC 960 903 ACCATCGCTGGGGCAAACCAGGTTAATTCCGGCCGTTCAACAGGCCAGGGGTGA 1020 1021 AGGCCAATCCGCTTGTTGCCGCTTACTGGTTGAAACAACACTCTCTCAGGCCCAGTTA 1080 1021 AGGCCAATCCGCTTTGCCGCTTCACTGGTTGAAACAAAAACCACCCTGGCGCCCAATA 1080 1031 AGGCCAATCCGCTTTGCCCGTTCACTGGTTGAAACAAAAACCACCCTGGCGCCCAATA 1080 1041 CCCCAACCGCTTTGCCCGTTCACTGGTTGAAAAAAAACCACCCTGGCGCCCAATA 1080 1050 CGCAAACCGCTTTCCCCGTTCACTGGTTGAAAAAAACCACCCTGGCGCCCAATA 1080 1061 CGCAAACCGCTTTCCCCGTTCACTGGTGAAAAAAACACACCCTGGCGCCCAATA 1080 1071 CCCGACTGGAAACCGCGCGCGGCGGTTGGATTAATTCTGACTTAACTCACTTATTC 1200 1071 CCCGACTGGAAACCGCGCGCGCGCGCAATTAATTCTGACTTAACTCACTTATTC 1200 1071 CCCGACTTCCATGTTTGACCGTTACAACCAATTAATTCTGACTTAACTCACTTATTC 1200 1071 CCCGACTTCCATGTTTGACCGCTTACAACCAATTAATTCTGACTTAACTCACTTATTC 1200 1071 CCCGACTTCCATGTTTGACCGCTTACAACCAATTAATTCTGACTTAACTCACTTATTC 1200 1071 CCCGACTTCCATGTTTGACCGCTTACAACTAATCCTCACTCA	

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                                                                                                          GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                              120
                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                       9
                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                         CGGACACCATGGAATGGTGCAAAACCTTTCGCGGTATGGTATGATAGCGCCCGGAAGAGA
                                                                                                                                                                              CGCGGGAAAAAGTGGAAAGGGGCGATGCCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                            CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                        AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                    ACGCGCCCTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTGGTGTGGATGGTAGAAGGAGGGGTCGAAGGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                Acececcercecaarricicececcarraarcreececcearcaacreegreecage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TIGCIGIGGAAGCIGCCIGCACIAAIGIICCGGCGITAITITCIIGAIGICICIGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTGACATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781 ATGAGGGCATCGTTCCCACTGCGATGCTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCGAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                        90;
                                            Length 6706;
                                                                        Indels
                                                                      5,
                                          DB 12;
                                        Score 2631; DE
Pred. No. 0;
0; Mismatches
                                     Query Match
Best Local Similarity 97.7%;
Matches 2704; Conservative
                                                                                                                                                           61
                                                                                                                                                                                       61
                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         196
         ORIGIN
                                                                                                                          g
                                                                                                                                                                                   g
                                                                                                                                                        ò
                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                     원
장
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 & 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    $ 6 B $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 B S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                             /codon_geart=1_repressor_
/rans1_table=11
/product="lac repressor"
/product="lac repressor"
/brotein_id="AAB8658.1"
/db_xref="GI:2623822"
/translation="WKPVTIVDVARYAGVSYOTVSRVVNQASHVSAKTREKVEAAMAE
LNYIPNRVAQQLAGKQSLLIGVATSSLALAHAPSQIVAATIRSRAGOGASVVVSWNERS
GVBACKAAAVHNLLAQRVSGLIGVATSSLALAHAPSQIVAATIRSRAGVSROGTPINSII
FSHEDGTRLGVEHLVALGHQQIALLAGPLSSVSARLRLAGWHXYLTRNOIQPIRERE
DWSAMSGRQQTWMALAGIVTTAMLVANDQWALGAMTAITESGLRVGADISVVGYDDT
EDSSCYIPPLTIKQDFRLLGQTSVDRLLQLSQGQAVKGNQLLPVSLVKRKTTLAPNT
QTASPRALADSLAGVSRLESGQ"
1406.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /Cranslation="MKKLLFAIPLVVPPYSHSADMKIEEGKLVIWINGDKGYNGLAEV
GKKFEKDGTGTKTVVBHPDKLEEKFPOVAATGGPDIIFWAHDRFGGYAQSGLLAEITP
DKAFQDKLYPFTWDAVRKLIAYIPAVBALGIIYNBOLLENDPKWWEEIPALDKEL
KAKGKGALMFRLOEPFYFWPLIAADGGYAFYKENGKYDIKDVGVDAMGAKAGLTFLVD
LIKNKHMNADTDYSIAEAFNKGETAMTINGPWAWSNIDTSKVNYGVTVLPFFKGQPS
PRFVGYLGARINAASPWKEATAFFLEBYYLLTDEGLEAVUNKKPLGAVALKSYEEELAK
DRRIAMMADAGKGEIMPNIPQMSAFWYAVTAAVINAASGRQTVDEALKBAGTNSSN
NNNNNNNLGIEGENPNIPQMSAFWYAVTAAVINAASGRQTVDEALKDATNSSN
NNNNNNNNLGIEGENPNIPQMSAFWYAVTAAVINAASGRQTVDEALKDATNSASN
ASWRNSEEARTDRPSQQLRSLNGEWQLGCFGG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db xxef="G1:263824"

/db xxef="G1:263824"

/translation="MSIQHFRVALIPFFAAFCLPVFAHPETLVKVKDAEDQLGARVGY
IELDLMSGKILESFRPERSPMSTFKTLLCGAVLSRVDAGOEQLGRRIHYSQNDLVB
YSPVTEKHLTOGMYTKELCSAAITMSDNTAANLLLTIGGFKELTAFLHNMGDHVTRL
DRWEPELNEAIPNDERDTTMPVAMATTLRKLLTGELTLASRQQLIDWMEADSYCNAGPL
LRSALPAGMYTADKSGAGERGSRGIIAALGFDGKFSRIVVIYTTGSQATWDERNRQIA
                 notew derived from commercially available vector pMal-p2 (New England Biolabs) "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1582. 2973

Space="malE-lacZa fusion"
/product==malLose binding protein-lacZ alpha peptide fusion protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                      to include phage M13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /product="maltose binding protein-lacz alpha protein precursor"
fusion protein precursor"
/protein id="AAB86559.1"
/db_xref="GI:2623823"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note="R-plasmid ampicillin resistance gene"
478. .4338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note="M13 secretion signal sequence"
                                                                                                                                                                                                                                                                                                               note="transcriptional repressor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4381. .4893
/standard_name="M13 origin (+ -)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     codon start=1
transl_table=11
product="RTEM-1 beta-lactamase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1528. .1581
'gene="malE-lacZa fusion"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein_id="AAB86560.1"
xref="taxon:69327"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note="penicillinase"
                                                           /gene="lacI"
/note="E. coli gene"
                                                                                         15. .46
/gene="lacI"
                                                                                                                                     /gene="lacI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EIGASLIKHW"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene="bla"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rep_origin
                                                                                        promoter
                                                                                                                                                                                                                                                                                                                                                promoter
                                                                                                                                                                                                                                                                                                                                                                           gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene
                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
```



Ad190419 Clostridi Adf06053 Vector pJ Adf13509 Plasmid p Adh73509 Plasmid p Adh73600 Plasmid p Adh73600 Plasmid p Adh73600 Plasmid p Adh73600 E. coli t Aav32977 Tn7 donor Aav32977 Tn7 donor Aav32977 Tn7 donor Adf72229 DNA seque Adf72229 DNA seque Adf72229 DNA seque Adf18668 Plasmid p Adf73209 MBP and z Adf868 Plasmid p Adf3109 MBP and z Adf863522 MBP-human Act90491 Vector pl Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg Adc33532 Vector pg

Title: Perfect score:

Sequence:

OM nucleic

Run on:

Scoring table:

Minimum DB e Maximum DB e

Database

```
Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               transl except= (pos:3046. .3048, aa:Ser)
note= "CDS does not include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= h
/bound_moiety= "F4-f2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       *tag= b
bound_moiety= "F1-f2 primer"
770. .2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bound_moiety= "F1-f1 primer"
2824. .2889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       *tag= d
bound_moiety= "F2-b primer"
1867. _2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              *tag= e
'bound_moiety= "F2-f primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        *tag= a
product= "ZFPm4 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Partial sequence of pMal-m4 and ZFPm4 DNA.
                                                                                                                                                                                                                                                                                                                                                                          ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bound_moiety= "F3-b1
                                      ADH73599
ADH73598
ADH73600
ADH73601
ABZ23939
ABZ23939
ABZ23939
ABZ23939
ABZ23939
ABZ23939
ADT72229
ADT72229
ACF06051
                                                                                                                                                                                                                                  ADF83622
AAT90491
AD033522
                                                                                                                                                                                                                                                                          ADE24112
ADO33532
ADO33531
AAD29720
AAC55459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "F3-b2
                                                                                                                                                                                                        ADL18668
                                                                                                                                                                                                                        ABQ73089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
2719. .3270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= g
/bound moiety= "
2992. 3042
                                                                                                                                                                                                                                                                                                                                                                                                                                              AAD11591 standard; DNA; 3300 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         740. .2790
  3953. 3021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            partial
 *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2867.
 Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer_bind
1609.4
14652.4
14662.4
14662.4
14662.4
14162.4
14117.6
14117.6
14117.6
1362
                                                                                                                                                                                 1362
                                                                                                                                                                                           1238.4
1238.4
1237.2
1237.2
1204
1204
1204
1204
1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAD11591;
                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                   AAD11591
  Aad11591 Partial 8
Aad11588 Partial 8
Aad11588 Partial 8
Aad11589 Partial 8
Aad11590 Partial 8
Aad21590 Partial 8
Aad21590 Partial 8
Aad25681 Nucleotid
Ad023680 DNA encod
Ad023598 DNA encod
Ad023599 DNA encod
Ad023599 DNA encod
Ad023599 DNA encod
Ad023594 DNA encod
Ad023594 DNA encod
Ad023594 DNA encod
Ad023594 DNA encod
Ad023594 DNA encod
Ad023594 DNA encod
Ad023594 DNA encod
Ad023594 DNA encod
Ad023594 DNA encod
Ad023598 DNA encod
Ad023598 DNA encod
Ad023598 DNA encod
Ad023598 DNA encod
Ad023598 DNA encod
Ad023598 DNA encod
Ad023598 DNA encod
Ad023598 DNA encod
Ad023598 DNA encod
Ad023598 DNA encod
                                                                                             July 31, 2005, 14:24:04; Search time 1094.6 Seconds (without alignments) 17846.836 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
               GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                 4390206 segs, 2959870667 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAD11592
AAD11588
AAD11580
AAD11590
AAD23681
AD023603
AD023603
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
AD023598
                                                                    nucleic search, using sw model
                                                                                                                                                                                                        IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                           genesequ2008:*
geneseqn2001as:*
geneseqn2001bs:*
geneseqn2002bs:*
geneseqn2002bs:*
geneseqn2003bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           geneseqn2003cs:*
geneseqn2003ds:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       geneseqn2004as:*
geneseqn2004bs:*
                                                                                                                                                                                                                                                                                                                                                                                                     N_Geneseq_16Dec04:*
1: geneseqn1980s:*
2: geneseqn1990s:*
                                                                                                                                                                                                                                                                                                        seq length: 0
seq length: 200000000
                                                                                                                                                US-09-765-555B-17
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3300
3300
3300
3300
3300
3300
7259
7322
7352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7403
7442
7478
71112
6806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99.7.4

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9.7.5

9
```

33215.2 332155.2 322155.2 322155.2 32207.2 32690.4 326

Result No.

N

360

420 420 480 480 540 540 600 900 999 99 720 720 780 780 840

```
GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGGGTGA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
                   CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240
                                                            AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCCACCTCCAGTCTGGCCCTGC
                                                                                                ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                  TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                           TTCTCGCGCGAACGCGTCATGAGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                           CGCGTCTGCGTCTGGCTGGCTGGCAAATATCTCACTCGCAATCAAATTCAGCCGGTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGAACGGGAGGGGACTGGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTCGCGCAACGCGTCAGTGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                            CTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                  Trecreresakacrecreacrakrerrecesecrikarrrecrekrerererekeak
                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                               TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAGGGCATCGTTCCCACTGCGATGCTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGGATACCGAAGACAGCTCATGTTATACCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAAGGCGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAGAAAACCACCCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                         TIGCIGIGGAAGCIGCCIGCACIAAIGIICCGGCGIIAIII
                                             241
                                                                                                                        301
                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                       241
                                                                                                301
                                                                                                                                                  361
                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1261
                                         à
                                                                   ద
                                                                                              ò
                                                                                                                    g
                                                                                                                                                  ઠ
                                                                                                                                                                          g
                                                                                                                                                                                                    8
                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                       8 6
                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target mucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target cells within a target gene and allowing the ZFP binding to the target cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m4 and ZFPm4 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                  New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the target gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ccaacaccarcaaraccaaaaaccriricacaaraacaraaraacaraaraacacccaaaaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3300 BP; 849 A; 865 C; 880 G; 706 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ô
                                                                                                                              /*tag= 1
/bound_molety= "F6-b1 primer"
3205. 3273
/*tag= m
/bound_molety= "F6-b2 primer"
                           _moiety= "F4-f1 primer'
                                                                bound moiety= "F5-b primer"
119. 3192
                                                                                                        moiety= "F5-f primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .0%; Score 3300;
.0%; Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                       Dalmia B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 4; Page 145-147; 156pp; English.
                                                                                                                                                                                                                                                                                                                              ) SCRIPPS RES INST.
                                                                                                                                                                                                                                                                                                                                                                       Guan X,
                                                                                                                                                                                                                                                                                      21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                             19-JAN-2001, 2001WO-US001817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100.0%;
Matches 3300; Conservative 0
                                         .3141
                                                                                                                      .3225
                                                                                                     /bound_18168.
                                                     *tag=
                                                                                                                                                                                                                                                                                                                                                                      Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-465325/50.
                                                                                                                                                                                                                                                                                                                                                                                                         P-PSDB; AAE06004.
                                                                                                                                                                                                            WO200152620-A2
primer_bind
                                      primer_bind
                                                                            primer_bind
                                                                                                                 primer_bind
                                                                                                                                                                                                                                     26-JUL-2001
                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                    Barbas CF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                              (SCRI
(SYGN
음 ਨ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              윰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          상 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

1140

900 840

900 960

us-09-765-555b-17.rng

Qy 2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 246(Qy 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 252(Oy 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTG	Qy 2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 [Oy 2641 AACAACAACAATAACAATAACAACAACCTCGGGATGGAGGGAAGGATTTCAGAATTC 2700	2701	Oy 2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC 2820	Qy 2821 ACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGAGCAGCG 2880	2881	2941 AAGTCTTTCAGTCATTGTCGTGATCTTGCCAGGCACCAACGTACTCACACCGGGGGGAAG	Oy 3001 CCCTATGCTGGAATGTGGTAAGTCCTTCTCTCAGAGTCTCTGATGGCCAC 3060	3061 CAGCGTACCCACACGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC 1061 CAGCGTACCCACAGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC	3121 CGCAGCATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAAAGCCATACAAATGT 318	1181 CCAGAATGTGGCAAGTCTTTCTAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCCTCACTACTCACTACTCACTACTACACTACTACACTACT	Oy 3241 ACCGTRAARAACTNGTGGCCGGCCGGCCGTACCGGTACGACGTTCCGGACTACGCTT 3300 1241 ACCGGTAAAAAACTTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGCT 3300	RESULT 2 AAD11592 ID AAD11592 standard, DNA, 3300 BP. XX	AC AAD11592; XX DT 24-SEP-2001 (first entry)	DE Partial sequence of pMal-Ap3 and ZFPAp3 DNA. XX KW Zinc finger protein; ZFP; gene expression; metabolic pathway regulator;
1321 TGTGGCTCAAGGCGCACTCGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACACCCCGTTCTGCATAATGTTTTTTTGCGCCGACATCATAACGGTT 1380	CTGGCAAATATTCTGAAATGAGCTGTGACAATTAATCATCGGCTGGTATAATGTGGGAATTAATCATCGGCTGGTATAATGTGTGGA	ATTGTGAGGGGATAACAATTTCACAGGAAACAGCAGTCGTTTAGGTGTT ATTGTGAGGGAATAACAATTTCACAAAGAAACAGCCAGTCCGTTTAGGTGTT ATTGTGAGGGAATAACAATTTCACAAAGAAAACAGCCAGTCGGTTTAGGTGTTT	~ ~	ATTAACGGGGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACCGCTTTGGTGGCTAC 1740	GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCGTTTTTTTT	CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGGGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGGGGGGGTTATGCGTTCAAGCGGAAGTTGTTCACTGCTGCTGCTGCTGCTGAAGAACCGTAACGTTCACTGGCGGCGCTGATTGCTGCTGACGGGGGGTTATGCGTTCAAG	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 	2101 GGTCTGACCTTCCTGGTTGAACAAAACAAACACATGAATGCAGACACCGATTAC 2160 	2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAAGCGGATGACCATCAACGGCCCGTGG 2220 	2221 GCATGCTCCAACATCGACAGCAAGAGAAATTATGGTGTAACGGTACTGCCGACCTTC 2280	2281 AAGGGTCAACCATCCAAACCGTTGGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340 2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340	2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGAAGGTCTG 2400 2341 CCGAACAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA

```
*********************************
                                                                                                                                                                        g
                                                                                                                                                                                          8
                                                                                                                                                                                                     g
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                   QQ
                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                              8 A
                                                                                                                                                                                                                                                                                                                                           8 6
                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                       8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the
                                                            'transl_except= (pos:3124. .3126, aa:Ser)
/transl_except= (pos:3124. .3129, aa:Ser)
/transl_except= (pos:3136. .3138, aa:Val)
/note= "CDS does not include start and stop codon"
modulation; plant technology; agriculture; Ap3; APETALA3; ds
                                                                                                                                                                                                                                           /*tag= h
/bound moiety= "F4-f2 primer"
3022, 3102
/*tag= i
/bound moiety= "F4-f1 primer"
3076, 3141
                                                                                        partial
7740. 2790
**Atog b
**Dound molety= "F1-f2 primer"
7770. 2850
                                                                                                                                                                         *tag= e
bound moiety= "F2-f primer"
bound moiety= "F3-f primer"
*tag= f
bound moiety= "F3-b1 primer"
                                                                                                                                     "F1-f1 primer'
                                                                                                                                                                                                                       *tag= g
bound_moiety= "F3-b2 primer"
1992. .3042
                                                                                                                                                                                                                                                                                                                                                                "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                          "F6-b1 primer'
                                                                                                                                                   *tag= d
'bound_moiety= "F2-b primer"
1867. .2940
                                                                                                                                                                                                                                                                                                                       primer"
                                                    product= "ZFPAp3 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 4; Page 148-149; 156pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dalmia
                                                                                                                                                                                                                                                                                                                                                                                                                                                (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                              Location/Qualifiers
2719. .3270
/*tag= a
                                                                                                                                                                                                                                                                                      /*tag= j
/bound_moiety= "
3119. 3192
                                                                                                                              /*tag= c
/bound_moiety= "
2824. .2889
                                                                                                                                                                                                                                                                                                              /*tag= k
/bound_moiety= "
3168. .3225
                                                                                                                                                                                                                                                                                                                                    /*tag= 1
/bound_moiety= "
3205. .3273
                                                                                                                                                                                                                                                                                                                                                                /bound_moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                            19-JAN-2001; 2001WO-US001817.
                                                                                                                                                                                                                                                                                                                                                                                                                          21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                              953.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2001-465325/50.
P-PSDB; AAE06005.
                                                                                                                                                                                                                                                                                                                                                                               WO200152620-A2
               Unidentified
                                                                                                 primer_bind
                                                                                                                      primer_bind
                                                                                                                                                                                       primer_bind
                                                                                                                                            primer_bind
                                                                                                                                                                  primer_bind
                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                                                                                                            primer_bind
                                                                                                                                                                                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Barbas CF,
                                                                                                                                                                                                                                                                                                                                                                                              26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                target
```

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target cells within a target gene and allowing the ZFP binding to the target cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a giscultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-Ap3 (APETALA3) and ZFPAD3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccarcatcartcartactararctritcacaratactartactartactartactcccccaracaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCATGAGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCCCCTCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Acececcercecaaarrerecececcaarraaarcreececcaarcaacreecraece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601 IGGICGCATIGGGICACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                              DB 4; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                            Sequence 3300 BP; 853 A; 872 C; 876 G; 699 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                         42; Indels
                                                                                                                                                                                                                                                                                                                                                                         98.0%; Score 3232.8;
98.7%; Pred. No. 0;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 98.7
Matches 3258; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            199
```

1911
68

```
cadddiacccacacacacadaaaaccararaarracccadagraccaaarcrrrradc 3120
                                                                                                                                                                                                                 CGCAGCGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180
                                                                                                                                                                                                                                          3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                        3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACTTAC 3240
                                                                                                                                                                                                                                                                                                                                                                                    3241 ACCGGTAAAAACTAGTGGCCAGGCCGGCCAGTACCGGTACGACGTTCCGGACTACGCT 3300
  2941 AAGTCTTTCAGCCAGTCCAGCAACCTGGTGCGCCACCAACGTACTCACACCGGGGGAGAAG 3000
                                            CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCTCAGAGCTCTCACCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                               3241 ACCGGTAAAAAAACTAGTGGCCAGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zinc finger protein; ZFP; gene expression; metabolic pathway regulator; modulation; plant technology; agriculture; ds.
                                                                                       CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCACCAGTGGCTCCTTGGTTAGACAC
                                                                                                                             CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       include start and stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aa:Gly)
aa:Gly)
aa:Alarg)
aa:Glu)
aa:Glu)
aa:Glu)
aa:Glu)
aa:Ser)
aa:Ser)
aa:Ser)
aa:Asp)
aa:Asp)
aa:Asp)
aa:Asp)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2790,
2793,
2874,
2880,
2886,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /bound_moiety= "F1-f1 primer"
2824. _2889
/*tag= d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag= b
/bound_moiety= "F1-f2 primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (pos:2791.
(pos:2872.
(pos:2875.
(pos:2878.
(pos:2884.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Partial sequence of pMal-ml and ZFPml DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (pos:3124.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pos:2953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pos:2959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pos:3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pos:3130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      pos:3136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pos:3205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /transl_except= (
/transl_except= (
/transl_except= (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    product= "ZFPm1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /transl_except= (/transl_except= (/trans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'transl_except=
'note= "CDS does
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           transl_except=
transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAD11588 standard; DNA; 3300 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        transl_except=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /partial
2740. .2790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .2850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2719. .3270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        trans,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            primer_bind
                                                                                    3001
                                                                                                                               3061
                                                                                                                                                                                                                                                          3121
                                                                                                                                                                                                                 3121
                                            3001
                                                                                                                                                                         3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAD11588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 3
8
                                                                                유
                                                                                                                                                                요
                                        ð
                                                                                                                    ઠે
                                                                                                                                                                                                             à
                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                  ઠે
```

```
The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZPP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZPP binding to the target on nucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZPP and fusions of the ZPP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZPP, fusion proteins and methods are useful in plant and plants. The ZPP, fusion proteins and methods are useful in plant and disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pMal-m1 and ZPPm1 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other;
                                                                                                                                                                  bound moiety= "F4-f2 primer" 022. 3102
                                                                                                                                                                                                             'bound moiety= "F4-f1 primer"
                                                                                                                                                                                                                                                                                                                                      /bound_moiety= "F6-b1 primer" 3205, .3273
                                                                                  "F3-b1 primer"
                                                                                                                            primer'
                                                                                                                                                                                                                                                                                                                                                                                 'bound moiety= "F6-b2 primer"
  bound_moiety= "F2-b primer"
                                                                                                                                                                                                                                                        bound_molety= "F5-b primer"
119. 3192
                                         bound_moiety= "F2-f primer"
                                                                                                                                                                                                                                                                                                'bound_moiety= "F5-f primer"
168. .3225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 4; Page 138-139; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dalmia
                                                                                                                            "F3-b2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                                                                 /bound_moiety=
2953. .3021
                                                                                                              *tag= g
bound moiety=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Barbas CF, Stege JT, Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-JAN-2001; 2001WO-US001817
                                                      916. 72973
                                                                                                                                          992. 3042
                                                                                                                                                        *tag=
                                                                                                                                                                                                 *tag=
                                                                                                                                                                                                                                          *tag=
                                                                                                                                                                                                                                                                                    *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-465325/50.
P-PSDB; AAE06000.
                                                                                                                                                                                                                                                                                                                                                                                                           WO200152620-A2
           primer_bind
                                                     primer_bind
                                                                                              primer_bind
                                                                                                                                       primer_bind
                                                                                                                                                                                  primer_bind
                                                                                                                                                                                                                            primer bind
                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                        26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             target gene
```

ö

Gaps

ö

Indels

53;

97.4%; Score 3215.2; 98.4%; Pred. No. 0; iive 0; Mismatches

Conservative

Best Local Similarity Matches 3247; Conserv

Query Match

DB 4; Length 3300;

2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220

음

g

ò

ઠે

ద

유

ઠે

ઠે

g

8 6 8 6

දු දු

8 6 6 6 6

8 6

දි දි

8 6 8 6 8 6

8 8

8 6

```
metabolic pathway regulator;
ds.
                                                                                                                                                                                                                        /product= "ZFPm2 protein"
note= "CDS does not include start and stop codon"
partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= g //bound_moiety= "F3-b2 primer" 2992. 3042 //tag= h //bound_moiety= "F4-f2 primer" 3022. 3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag= i
/bound_moiety= "F4-f1 primer"
3076. 3141
/*tag= j
/bound_moiety= "F5-b primer"
3119. 3192
                                                                                                                                                                                                                                                                                                                                                                                                                                      *tag= f
bound moiety= "F3-b1 primer"
953. 3021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         '*tag= m
'bound_moiety= "F6-b2 primer"
                                                                                                                                                                                                                                                                                                                                     bound moiety= "F1-f1 primer"
824. .2889
                                                                                                                                                                                                                                                                                                bound moiety= "F1-f2 primer'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "F6-b1 primer"
                                                                                                                                                                                                                                                                                                                                                              *tag= d
bound_moiety= "F2-b primer"
867. _2940
                                                                                                                                                                                                                                                                                                                                                                                                    *tag= e
bound_moiety= "F2-f primer"
916. _2973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               *tag= k
bound moiety= "F5-f primer"
168. 3225
                                                                                                                              Zinc finger protein; ZFP; gene expression; modulation; plant technology; agriculture;
                                                                                                       Partial sequence of pMal-m2 and ZFPm2 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dalmia B;
                                                                                                                                                                                      Location/Qualifiers
2719. .3270
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
                                 踞.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag= 1
/bound_moiety= "
3205. 3273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Guan X,
                              AAD11589 standard; DNA; 3300
                                                                                                                                                                                                                                                                        2740. .2790
/*tag= b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JAN-2001; 2001WO-US001817.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Barbas CF, Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40200152620-A2
                                                                             24-SEP-2001
                                                                                                                                                                    Inidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                            primer_bind
                                                                                                                                                                                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                                                                                                                                                    primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                          primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           primer_bind
                                                      AAD11589;
                                                                                                                                                                                              Key
      RESULT 4
                  AAD11589
                               2280
                                                     2340
                                                                             2340
                                                                                                      2400
                                                                                                                                                                                                                                                         2580
                                                                                                                                                                                                                                                                                   2580
                                                                                                                                                                                                                                                                                                          2640
                                                                                                                2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                   TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                    2640
                                                                                                                                                                                                                                                                                                                                                            2700
                                                                                                                                                                                                                                                                                                                                                                                                             2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2880
                                                                                                                                                                                                                 2461 TTGGCGAAAGATCCACGTATTGCGCCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                      2701 GGATCCTCTTCCTCTGTGGCCCAGGGGGCCCTCGAGCCCGGGGGAGAAGCCCTATGCTTGT 2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC 2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCGCAGCGATAACCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACACGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ccagaardredecaactrircrecresteraaraarcresteeseseseseraceracitese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                  CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                     GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                            2581 GCCAGCGGTCGACAGACTGTTGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2761 CCGGAATGTGGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGTGCGCCCATCAACGCACTCATACTGGCGAGAAAGCCATACAAATGTCCAGAAATGTGGC
              2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGAGCAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2941 AAGTCTTTCAGTGATTGTCGTGATCTTGCGAGGCACCAACGTACTCACACGGGGGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCGTACCCACACGGGGGAAAAACCGTATAAATGCCCAGAGTGCGGCAAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCGTACCCACACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCAGCGATAACCTGGTGCGCCATCAACGCACTTACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                         AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                         GGATCCTCTTCCTCTGTGGCCCAGGCGGCCCTCGAGCCCCGGGGAGAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3121 CAGGCCGGCCACCTGGCCATCAACGCACTCATACTGGCGAGAAGCCATACAATGT
                                                 2281
                                                                                                 2341
                                                                                                                                                                                                                                                                                                                                                         2641
                                                                                                                                                                                                                                                                                                                                                                                2641
2221
                                                                                                                                                                                                    2461
                                                                                                                                                                                                                                                                                                      2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2761
                                                                                                                                                                                                                                                     2521
                                                                                                                                                                                                                                                                                                                                                                                                         2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3241
```

TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG

the

თ

inc finger proteins, useful for modulating or regulating gene ssion and metabolic pathways in plants, e.g. for treating in the cells a disorder that is associated with abnormal expression of expression and metabolic plant cells a disorder the target gene. 2001-465325/50 P-PSDB; AAE06002 zinc New

The patent discloses methods and compositions to modulate the expression of a target gene in plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence. Where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the partial sequence of pwal-m2 and ZFPM2 DNA Example 4; Page 140-142; 156pp; English

Sequence 3300 BP; 847 A; 874 C; 876 G; 703 T; 0 U; 0 Other;

8 8

8 6 8 6

180 300 120 120 180 240 240 300 360 360 420 420 480 480 540 540 600 900 99 9 9 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG TGGTGTCTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA ccaacaccarcaargerecaaaaccrrrcecegrareecargaraccecegaagaga GTCAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACATC TTCTCGCGCAACGCGTCAGTGGCCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA Gaps · 0 DB 4; Length 3300; Indels 53; Score 3215.2; I Pred. No. 0; 0; Mismatches Query Match
Best Local Similarity 98.4%;
Matches 3247; Conservative (н 181 241 541 121 241 301 361 421 481 601 19 5 121 181 301 361 421 481 541 Query

g

ઠે

g

8

6 8 8

ያ ያ

8 8

<u>ፍ</u> ይ 요 ò

1740

1681

1080 1080 1140 1140 1200 1260 1560 1560 1620 1020 1020 1200 1260 1320 1320 1380 1380 1440 1500 1500 1620 GCGGCAACTGGCGCATGGCCCTGACATTATCTTCTGGGCACCGCCTTTGGTGGCTAC 1740 900 720 780 780 840 840 900 960 960 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG TCAGGCAGCCATCGCAAGCTGTCGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG GCGCCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGCTTT GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG TGTCGCTCAAGGCCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT crescabararrergabargagergrigaeaarraareareseeresraraarergea ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT ACCEGAATTAAAGTCACCETTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA cegaaceseaacesacresacrescarercescrrrrcaacaaaccaresaarescrea ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG <u> ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC</u> GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAAGGCGGTGA rcaddcadccarcadaagcrargarargacrargacagarcaraarcacracaraarrca CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1441 781 901 1021 1021 1141 1261 1261 1321 1321 1381 1561 1561 1621 1621 1681 721 841 841 961 1081 1141 1201 1201 1381 1441 1501 1501 661 561 721 781 901 961 1081 쉱 셤 원 Op g 셤 g g 셤 ద g 8 원 ò g ŝ g õ ò ò 셤 ò 엄 ò g ò ò d ò ò ò Ś Š 8 ò ઠે

0y 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGCCAAATCTTTTAGCCAGCAGCAGC 2880 2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGCAGCAGCAGCAGCAGAGCCAAATCTTTAGCCAGCAGCAGCAGAACCAGCAGAATGCTCGAGAATGTGCGCAGAACCAGCAGAATGTCGAAATGTCCAGCAGAATGTGGCCCAGCAGAATGTGGCCCAGCAGAATGTGGCCCAGAAATGTCAGAAATGTCAGAAATGTCAGAAATGTCAGAAATGTCAGAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAATGTCAGAAAAAAAA	RESULT 5 ADD1590 ID AAD1590 standard, DNA; 3300 BP. XX AC AAD1500; XX XX XX XX XX XX XX XX XX XX XX XX XX
1741 GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800 1741 GCTCAATCTGGCCTGTTGGCTGAATCACCCCCGGACAAGCGTTCCAGGACAAGCTGTAT 1800 1801 CCGTTTACCTGGATGCGTTACACGCCCGAAGCTGTTT 1800 1801 CCGTTTACCTGGATGCCGTACGCTGTT 1860 1801 CCGTTTACCTGGATGCCGTACGTTACACGCCAAGCTGATTGCTTACCCGATCGCTGTT 1860 1861 GAAGCGTTATCGCTGATTATACACAGCTGATCTGCTGATTGCTTACCCGATCGCTGTT 1860 1861 GAAGCGTTATCGCTGATTATAACAAGAATCTGCTGCCGAACCCGCCCG	

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                 240
                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                                240
                                                                                  300
                                                                                                                  300
                                                                                                                                                                                     360
                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                             480
                                  CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGTCTGCGTCTGGCTGGCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGGCATCGTTCCCACTGCGATGCTGCTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGCTGGGGCAAACCAGCGTGGACCTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGCCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cecgaetegaaagegggeageggegaageggaattaatgreagttageteacteattag
                                                                                                    ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                      ACGCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                          TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                             TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       restrescarrescreaceaaarcscscrearascscsccarraagrrescres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCGCGCCCATTACCGAGTCCCGGCCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCTGCTGGGGGCAAACCAGCGTGGACGCTTGCTGCAACTCTCTCAGGGCCAAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                               rrecreresaagerecerecacraarerreceseerrarrecreaterereaceasa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                  181
                                                                                                                    241
                                                                                                                                                      301
                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                  241
                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                         જ
                                                                                                           g
                                                                                                                                                  ઠ
                                                                                                                                                                                 g
                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of a target generate merchange and compositions of a target specifical of a target general plant cells. The method involves providing plant cells with a zinc finger protein (ZFP) which is capable of specifically binding to a target nucleotide sequence or its complementary strand within a target gene and allowing the ZFP binding to the target nucleotide sequence, where the expression of the target gene in the plant cells is modulated. The ZFP and fusions of the ZFP proteins are useful for modulating or regulating gene expression and metabolic pathways in plants. The ZFP, fusion proteins and methods are useful in plant and agricultural technology. The method is useful particularly for treating a disorder in the plant cells, where the disorder is associated with abnormal expression of the target gene. The present DNA sequence is the Partial sequence of pMal-m3 and ZFPm3 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New zinc finger proteins, useful for modulating or regulating gene expression and metabolic pathways in plants, e.g. for treating in the plant cells a disorder that is associated with abnormal expression of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GEGETCETTATCAGACCGTTTCCCCGCGTGGTGAACCAGGCCAGCCTTTCTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              patent discloses methods and compositions to modulate the expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3300 BP; 845 A; 878 C; 877 G; 700 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               58; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
                                                                                                                                                  /*tag= k
/bound_moiety= "F5-f primer"
3168. 3225
*tag= 1
/bound_moiety= "F6-b1 primer"
              primer"
                                                                                                                                                                                                                                                                            primer"
                                                                    primer'
                                                                                                                    "F5-b primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 3207.2;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 4; Page 143-145; 156pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dalmia
                 "F4-f2
                                                                    "F4-£1
                                                                                                                                                                                                                                                          /*tag= m
/bound_moiety= "F6-b2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA AGRIC DISCOVERY INC.
/*tag= h
/bound_moiety= "
3022. .3102
                                                                                                  /*tag= j
/bound_moiety= "
3119. .3192
                                                                  bound moiety=
076. .3141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Guan X,
                                                                                                                                                                                                                                                                                                                                                                                                                   21-JAN-2000; 2000US-0177468P.
21-JUL-2000; 2000US-00620897.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97.2%;
98.2%;
                                                                                                                                                                                                                                                                                                                                                                                 19-JAN-2001; 2001WO-US001817
                                                                                                                                                                                                                                          .3273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 98.2
Matches 3242; Conservative
                                                   *tag=
                                                                                                                                                                                                                                         1205.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Stege JT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-465325/50.
P-PSDB; AAE06003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                             WO200152620-A2
                                primer_bind
                                                                                  primer_bind
                                                                                                                                    primer_bind
                                                                                                                                                                                     primer bind
                                                                                                                                                                                                                                         primer bind
                                                                                                                                                                                                                                                                                                                                             26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Barbas CF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            target
```

8 6 8 6 8

ઠ

	2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 	2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700 	2701 GGATCCTCTTCCTCTGTGGCCCAGGCGCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT 2760	2761 CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCAC 2820	2821 ACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGAGCAGC 2880 	2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940	2941 AAGICITICAGIGAITGICGIGAICITIGCGAGGACACCAACGIACTCACACGGGGGAGAAG 3000 	3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCAC 3060 	3061 CAGCGTACCCACACGGGGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120 	3121 GGCAGCGATAACCTGGTGGGCCATCAACGCACTACTGGCGGAGAAGCCATACAAATGT 3180 	3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC 3240	3241 ACCGGTARAAAACTAGTGGCCAGCCGGCCAGTACCCGTACGACGTCCGGACTACGCT 3300	ULT 6 25681 AAH25681 standard; DNA; 8101 BP.	AX XX XX DT 05-SEP-2001 (first entry) XX DE Nucleotide sequence of human Cdc25C phosphatase DNA.
90 90	<i>ଧ</i> ଶ	QY Db	δγ DP	λο Qū	VO DP	oy DP	දු දු	ò 8	ъ д	è 9	රු පි	6 0 0	oy P	ò a	RESU AAH2 ID	B X H X A Y
1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCGCTGCATAATTCG 1320 1261 TCAGGCAGCCATCGGAAGCTGTGTGTGTGCGTGCTGCATAATCGCTGCATAATTCG 1320 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGGCCGACATCATAATGGCTTGTGTGTG	CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1		TCTGG 1	AAGAT 16 AAGAT 16					1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920 	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCGCTGATGTTCAAC 1980 	TCAAG 204	AAGCG		2161 TCCATGGGGGAGAAGCTGCCTTTAATAAAGGGGAACAGGGATGACCATCAACGGCCGGTGG 2220 	2221 GCATGGTCCAACATCGACACGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 	2281 AAGGGTCAACCATCCAAACCGTTCGTTGCCGAGCGCAGGTATTAACGCCGCAGT 2340

13

```
1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                960
                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                 480
                                                                                                           9
                                                                                                                                       600
                                                                                                                                                                      999
                                                                                                                                                                                                  099
                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCACTTCACCAACAAGGACCATAGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                          TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGGGTTCGGGTTGGTGCGGGATATCTCGGTAGTGGGATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGCTGGGGGGAAACCAGCGTGGACGCTTGCTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCAAACCGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACGACGATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTGTGAGGGGATAACAATTTCACACAGGAAACAGCCGGTCCGTTTAGGTGTTTTCACGA
                 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                            TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                              CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                            CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                    TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                              CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                          ATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1501
                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                 121
                                                                            481
                                                                                                            541
                                                                                                                                       541
                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1321
                                               481
                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                 음 상 음
                                                                                               ે
                                                                                                                              용
                                                                                                                                                            장염
                                                                                                                                                                                                                               8 6
                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        중 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence encodes human Cdc25C phosphatase, and was expressed in Escherichia coli. It is used to make fusion proteins with Escherichia coli maltose binding protein (MBD). The specification describes fusion proteins of MBP and one of Cdc 25B1, 25B2, 25B3 and 25C. Cdc phosphatases are involved in activation of cyclin-dependent kinases (CDK) that control cell division. The fusion proteins are used to identify modulators of the specified human Cdc phosphatases, potentially useful for regulation of cell division. They are also for studying physiological or regulation of physiopathological activities of Cdc phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                         New fusion protein of maltose-binding protein and Cdc phosphatase, useful for identifying phosphatase modulators for regulating the cell cycle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
               Fusion protein; maltose binding protein; MBP; Cdc25C phosphatase;
Cdc25B1; Cdc25B2; Cdc25B3; cyclin-dependent kinase; CDK; cell division;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGATGAATGTGAAACCAGTAACGTTATACGATGTCGCGAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 4; Length 8101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     82.0%; Score 2705.8;
99.9%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                                                                                                                               & APPL SCI
                                                                                                                                                                                                                                                                                              Prevost
                                                                                                                                                                                                                                                                                              Ducommun B,
                                                                                                                                                                                                                                                                                                                                                                                                       Claim 7; Page 9-13; 56pp; French
                                                                                                                                                                                                                                                               (SCRC ) SCRAS SOC CONSEILS RECH
                                                                                                                                                                                                 14-DEC-1999; 99FR-00015722.
30-MAY-2000; 2000FR-00006883.
21-SEP-2000; 2000FR-00012008.
                                                                                                                                                                      13-DEC-2000; 2000WO-FR003496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 99.9
Matches 2707; Conservative
                                                                                                                                                                                                                                                                                            Goubin-Gramatica F,
                                                                                                                                                                                                                                                                                                                            2001-398152/42
                                                                                                         WO200144467-A2
                                                                              sapiens.
                                                                                                                                       21-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                              Homo
```

8 6 8

6 B 6

6 6 6

8 6 8 6

g

8

ò

ઠે

ద

8 & 8 &

요

è

유

ઠે

셤

8686868

8 6

8 6 8 6

8 6

66666

ठे

```
Cdc25C phosphatase, amine; Cdc25 phosphatase; spontaneous alopecia; alopecia; proliferative disease; parasitic disease; viral infection; neurodegenerative disease; myopathy; anglogenesis; psoriasis; restenosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence represents pMAL-H8Cdc25C, a plasmid encoding human Cdc25C phosphatase. The specification describes the use of arylbatic secondary or tertiary amines for the production of medicaments for inhibiting Cdc25 phosphatases, especially Cdc25C phosphatases. The amines of the invention are used for treating poportaneous alopecia or alopecia induced by exogenous products or radiation. They are also used for treating tumoural or non-tumoural proliferative diseases, parasitic diseases, viral infections, proliferative diseases are e.g. anglogeness; poortasts or restenosis. Proliferative diseases are e.g. anglogeness; proliferation of mines are also useful for inhibiting the proliferation of microorganisms (especially yeasts) and in the treatment of all disorders conventionally treated with vitamin K or its derivatives
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cdc25 Phosphatase inhibiting medicaments, useful e.g. for treating tumor diseases, viral infections, neurodegenerative disease or alopecia, containing new or known aryl-substituted amines.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 8101 BP; 2127 A; 1987 C; 2121 G; 1866 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1528. .2677
/*tag= b
/orde= "encodes maltose binding protein (MBP)
2713. .4134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Goubin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thurieau C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
/note= "ORF of human Cdc25C"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (SCRC ) SCRAS SOC CONSEILS RECH & APPL SCI.
                                                                                                                                                                                                                                                                                                                              Nucleotide sequence of pMAL-Hs Cdc25C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Galcera CMO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure, Page 18-22; 39pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cocation/Qualifiers
                                                                                                                                                                                                                          BP
                                                                                                                                                                                                                          8101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-JUL-2000; 2000FR-00009900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-JUL-2000; 2000FR-00009900.
                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brezak PMC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2002-166066/22.
                                                                                                                          GGATCCTCT
                                                                                                                                                                                                                      ABL53238 standard;
                                                                                                GGATCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                     vitamin K; ss
                                                                                                                                                                                                                                                                                           17-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FR2812198-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Prevost G,
Ducommun B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic
                                                                                                                                 2701
                                                                                                                                                                                                                                                          ABL53238;
                                                                                                2701
                                                                                                                                                                                 셤
                                                                                            ò
                                                                                                                      셤
                                                                                                                                                                                 1740
                                                                                                                                                                                                                                                        1800
                                                                                                                                                                                                    1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800
                                                                                                                                                                                                                                                                                                                                         1801 CCGTTTACCTGGGATGCCGTACGTTACAACGCGAAGCTGATTGCTTACCCGATCGCTGTT 1860
                                                                                                                                                                                                                                                                                                                                                                                          GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAAACCCGGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                                                                                                                                           1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGGCAAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2160
GCACTTCACCAACAAGGACCATAGATTATGAAAATCGAAGAAGGTAAACTGGTAATCTGG 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ccdaacarcccccadarcrcccrrrcrdgrarcccrrdcarcrccgrdarcarcaccc 2580
                                   ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                                                                                                                            GCGGCAACTGGCGATGGCCCTGACATTATCTTGGGCACACGACCGCTTTTGGTGGCTAC
                                                                                                       ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCCACAGGTT
                                                                                                                                         1621 Accesartraastcaccerrescerrecesaraaacresaasaaartreceacaserr
                                                                    1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                     CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGATCCCGGCGCTGGATAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGGTCAACCATCCAAACCGTTCGTTGGTTGGTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAACAAAAAGAGTIGGCAAAAAGAGTTCCTCGAAAAACTATCTGCTGACTGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Troccgaragarccacgtattgccgccaccarggaraacgcccagaraggtgaratcatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2461 TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAAGGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCAGCGGTCGTCAGACTGTCGATGAAGCCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                1741
                                                                                                       1621
                                                                                                                                                                              1681
                                                                                                                                                                                                             1681
 1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1921
                                     1561
                                                                                                                                                                                                                                                                                                                       1801
                                                                                                                                                                                                                                                                                                                                                                                           1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2581
```

	1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCA	1201 GCACAATTCTCATGTTTAACAGCTTATCATCGACTGCACGATGCACCAATGCTTCTGGCG 1201 GCACAATTCTCATGTTTGACACGTTAATCGACGTGCACGGTGCACCAATGCTTCTGGCG 1201 GCACAATTCTCATGTTTTGACACGTTTAATCGACTGACGAGGGTGCACCAATGCTTTTTGGCG	1261 TCAGGCACCATCGAAGCTGTGTGTGTGTGTGTGTGTGTGT	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAAATGTGTGGA 1381 CTGGCAAATATCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGAGTGTGGGA	1441 ATTGTGAGGGGTTAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA	1501	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT [OY 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680	1681 GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACCGCTTTGGTGGCTAC 1681 GCGGCAACTGGCGATGACATTATCTTCTGGGCACACGCTTTGGTGGCTAC	1741	ON 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860	OY 1861 GAAGGGTTATGGCTGATTTATAACAAAGATCTGCTGCCGAACCGCGAAAACCTGGGAA 1920 DD 1861 GAAGGGTTATGGCTGATTTATAACAAAGATCTGCTGCCGAACCGCCAAAAACCTGGGAA 1920	OY 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCGCTGATGTTCAAC 1980	OY 1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040	Oy 2041 TATGAAAACGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCAAAGCG 2100 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGCGTGG
Query Match 82.0%; Score 2705.8; DB 6; Length 8101; Best Local Similarity 99.9%; Pred. No. 0; Matches 2707; Conservative 0; Mismatches 2; Indels 0; Gaps 0; 1 CCGACACCATCGAAAACCTTTCGCGGTATGCCATGATAGCGCCGGAAAGAGA 0 1	GTCAATTCAGGGTGGTGAAACGAGTAACGTTATACGAGGAGGTGTGCCGGGGGGTGGTGCGGGGGGGG	121 GTGTCTCTTATCAGACCGTTGCCGCGTGGTGAACCAGGCCAGCCA	181 CGCGGGAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240	241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 [301 ACGCGCCGTCGCAAATTGTCGCGGGGTTAAATCTCGCGCCGATCAACTGGCTGCCAGCG 360	361 TGGTGGTGTCGATGGTAGAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC 420 361 TGGTGGTGTGTGGAACGAACGAGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC 420	421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACCGCTGGATGACCAGGATGCCA 480	CCAGA 	SCATC 	TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGTGGCGCCATTAAGTTCTGTCTCGGTGCGCCCATTAAGTTCTGTCTCGCTCG	661 GGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCGCTCG	CGGAACGCGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGCTGAATGCTGAAACGAAACGAAACGAAACCATGTCCGGTTTTCAACAAAACGATGCAAATGCTGAAACGATTTTCAAAAAACAAAACAATGCTAAAACAAAAAAAA	ATGAGGGGATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGCGCAAAAAAAA	TGCGCGCCATTACCGAGTCCGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGCGATACG	ACGATACCGAAGACAGCTCATGTTATATCCGCCGTTAACCACCATGAACAGGATTTTC	GCCTGCTGGGGCAACCGGCGGCCCTTGCTGCACTCTCTCAGGCCCGGGGGTGA

```
2340
                                                                                                                                                                2400
                                                                                                                                                                                                                                   2460
                                                                                                                                                                                                                                                                                                                            2580
                                                                                                                                                                                                                                                                                                                                                  2640
                                                                                                                                                                            GAAGCGGTTAATAAAAACCAAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460
                                                                                                                                                                                                                                                     TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                          2461 TTGGCGAAAGATCCACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                2700
  2580
                                                                                                                                                                                                                                                                                                                                                            2641 AACAACAACAACAATAACAATAACAACATCGGGATCGAGGGGAGGATTTCAGAATTC 2700
                                                                                   GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                      TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                      GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                              AAGGGTCAACCATCCAAACCGTTGGTTGGTGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                           2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                 2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                              GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                          2641 AACAACAACAATAACAATAACAACAACTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA encoding MBP-ToxoP30de18(82-294aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AD023608 standard; DNA; 7259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                         GGATCCTCT 2709
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2701 ĠĠAĊĊĊĊĊ 2709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JS2004067239-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic.
 2101
                                              2161
                                                                   2221
                                                                                                                2281
                       2161
                                                                                          2221
                                                                                                                                       2281
                                                                                                                                                              2341
                                                                                                                                                                                                          2401
                                                                                                                                                                                                                                                                                                  2521
                                                                                                                                                                                                                                                                                                                                                2581
                                                                                                                                                                                                                                                     2461
                                                                                                                                                                                                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                                                                       2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADO23608;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
유
                                                                                     셤
                                                                                                                                 g
                                                                                                                                                                               g
                     à
                                        셤
                                                          ò
                                                                                                               ò
                                                                                                                                                        ઠે
                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
```

```
The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30de12C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alamine, or comprising the amino acid sequence of E00 mBP-Toxo30de13C(52-294aa) and MBP-Toxo30de13C(52-294aa) and MBP-Toxo30de13C(52-294aa) and mBP-Toxo30mIX1 fusion proteins. (1) is useful for detecting the presence of IgM contacting the test sample suspected of containing the IgM antibodies with a composition comprising (1) and detecting the presence of (1)/IgM mantibody complexes. The present sequence represents DNA encoding a MBP-MONDAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                   Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 GTCAATTCAGGGTGGTGAAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 GIGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCTCGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CCBACACCATCGAATGGTGCAAAACCTTTGGCGGTATGGCATGATGATGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301 ACGCCCCTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421 TICTCGCGCAACGCGTCAGTGGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TrecreredaAscreccreccaraterrecescerrarrerrearerereras
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 12; Length 7259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7259 BP; 1870 A; 1822 C; 1926 G; 1641 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6; Indels
 Bliese TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81.5%; Score 2690.4;
99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        fusion protein of the invention.
Ginsburg SR,
                                                                                                                                                                               Example 2; Fig 22; 114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 2694; Conservative
Patel CB,
                                  WPI; 2004-304563/28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                   P-PSDB; ADO23609
Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                          CoxoP30
ે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

8 8 8 8

420

480

540

909 600 9 99 720 720 780 780 840 840 900

480

```
08-APR-2004
                                                                              Best Local Sim:
Matches 2694;
              Synthetic.
                                                                                          61
                                                                                                121
                                                                                                   181
                                                                                                      181
                                                                            Query Match
Best Local S
요
                                                                                       8 6
                                                                                            ठे
                                                                                               S
                                                                                                   8 8
```

```
ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                  241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                        Acececcercecaarrercececcarraarcreececcearcaacreegreecagee
                                                                                                                                                                                                                            TIGCTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                           TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cecerciecerciecriecriecriecaraaararcicacricecaarcaaarrcaeceaarae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATGAGGTGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAGACTCTCTCAGGGCCCAGGCGGTGA
                                                                                                                                                                                   TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTCGCATTAGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGAGGGCATCGTTCCCACTGCGATGCTGCTAGCGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141 cccdactiggaaagcgggagtgagcgcaacgcaartaargraagtragcrcactcarrag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGAACGGGAAGGCGACTGGCGATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081 CGCAAACCGCCTCTCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961 GCCTGCTGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                               301
                                                                                                                                        301
                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1261
                                      g
                                                                                          ò
                                                                                                                             q
                                                                                                                                                                            ò
                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                         8 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del2C and Toxo330 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30del3C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C P2-294aa) and MBP-Toxo30MIX1 funion proteins (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies antibody complexes. The presence of (I)/IgM antibody complexes. The presence of (I)/IgM antibody complexes. The invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Grercriarcadaccerrrccedergaaccadeccadecadecraterrecedaaaa 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Igg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                 P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CCGACACCATCGAATGCTCCAAAACCTTTCGCGGTATGGCATGATGATGGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 GIGICICITATCAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIXI, useful for detecting presence of IgM or antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81.5%; Score 2690.4; DB 12; Length 7322;
llarity 99.8%; Pred. No. 0;
Conservative 0; Mismatches 6; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 7322 BP; 1887 A; 1844 C; 1934 G; 1657 T; 0 U; 0 Other;
                                        DNA encoding MBP-ToxoP30del10(52-284aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŢŖ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 2; Fig 25; 114pp; English.
                                                                                                                                                                                                                                                                                                                           02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                       02-OCT-2002; 2002US-00263153
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                           (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                        Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-PSDB; AD023614.
                                                                                                                                                                                                                                       US2004067239-A1.
```

6 6 6 6 6

g ò g 8 g ઠે g 8 a ઠ g 8 g જ g ò g કે

```
2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and ToxoP30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acids sequence of Toxo30de13C P30 antigen sequence is substituted with alamine, or comprising the amino acid sequence chosen from MBP-Toxo30de13C(52-300aa), MBP-Toxo30de14C(52-294aa) and MBP-Toxo30MIX1 fusion proteins. (1) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                          GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                   TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                        cGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                               AACAACAACAACAATAAACAATAAAAAAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                        GCCAGCGGTCGTCGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                           P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA encoding MBP-ToxoP30del4C(52-294aa) fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bliese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 2; Fig 19; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                      BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ginsburg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-OCT-2002; 2002US-00263153.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-OCT-2002; 2002US-00263153.
                                                                                                                                                                                                                                                                                                                                                                      AD023603 standard; DNA; 7352
                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-PSDB; AD023604.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          08-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic.
2401
                                2461
                                                                   2461
                                                                                                      2521
                                                                                                                                     2521
                                                                                                                                                                         2581
                                                                                                                                                                                                                                                                                                                                                                                                       ADO23603;
                                                                                                                                                                                                            2581
                                                                                                                                                                                                                                                                                                                                                   AD023603
                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                       रुं है दे
                                                                                                                                                                                               g
                                                                                                                                                                                                                                    상
음
                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2400
                                                     1440
                                                                                                                                                                                            1560
                                                                                                                                                                                                                             1560
                                                                                                                                                                                                                                                               1620
                                                                                                                                                                                                                                                                                                                                                                    1680
                                                                                                                                                                                                                                                                                                                                                                                                        1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2460
 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380
                                                                                                                                         ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGATCCCGGCGCTGGATAAAGAACTGAAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGAGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGAAGGTCTG
                                                                       CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                        GCACTTCACCAACAAGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                              1561 ATTAACGCCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                        GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGCCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                             GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAAACCCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                              GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAAATCTGG
                                                                                                                                                                                                                                                                                  1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                     GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                      ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                     CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2341
                                                                                                                      1441
                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                                                    1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2221
                1321
                                                   1381
                                                                                    1381
                                                                                                                                                                                          1501
                                                                                                                                                                                                                                                                                                                                                                                                        1681
                                                                                                                                                                                                                                                                                                                                                                                                                                         1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2101
```

g

6 6 6

g

8 8 8 8

ò

1380

1440

```
GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                               cecanaccecricicececerresecentrarianiecaecreseacaeserri
                                                                                                                    TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                      CGCAAACCGCCTCTCCCCCGCGCTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                  TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                     TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                        CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                    1681 GCGCCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACACGGCTTTGGTGGCTAC
                                                                                                                                                             GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                   TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                            ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                       ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGGCAACTGGCGGTGGCCCTGACATTATCTTCTGGGCACACACGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTTTACCTGGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGACGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                    ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                              1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGCCTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGATCCCGGCGCGCTGGATAAAGAACTCAAAGCGAAAGGTAAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                      1081
                                                                                                       1081
                                                                                                                          1141
                                                                                                                                                             1201
                                                                                                                                                                               1201
                                                                                                                                                                                                                   1261
                                                                                                                                                                                                                                      1321
                                                                                                                                                                                                                                                       1321
                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                               1441
                                961
                                                   1021
                                                                                                                                            1141
                                                                                                                                                                                                 1261
                                                                                                                                                                                                                                                                         1381
                                                                                                                                                                                                                                                                                                             1441
                                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                                                                    1561
                                                                                                                                                                                                                                                                                                                                                                                                                       1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1981
                                                8 6 8 6
8 6 8 6
                                                                                                                       6 8 6
                                                                                                                                                                         8 6 8 6 8 6 8
                                                                                                                                                                                                                                                                                                       6 B 6
                                                                                                                                                                                                                                                                                                                                                             8 % a
                                                                                                                                                                                                                                                                                                                                                                                                                  8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                 120
                                                                                                                                                                     180
                                                                                                                                 120
                                                                                                                                                                                       180
                                                                                                                                                                                                         240
                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                                                                             9
                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (I)/IgM
JambP-
                                                                                                                                        CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                             GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTTGC
                                                                                                                                                                                                                                                                            ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCGGG
                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                    TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                        TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                        TIGCIGIGGAAGCIGCCIGCACTAAIGTICCGGCGTTATTICTIGAIGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                          CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGTCTGCGTCTGGCTGGCTGAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGCGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGCGCCATTACCGAGTCCGGGCTGCGCTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGAACGGGAAGGCGACTGGCGATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  with a composition comprising (I) and detecting the presence of (antibody complexes. The present sequence represents DNA encoding Toxop30 fusion protein of the invention.
                                                        Length 7352;
                                                                          .;
0
                                   Sequence 7352 BP; 1896 A; 1852 C; 1943 G; 1661 T; 0 U; 0 Other;
                                                                          6; Indels
                                                        DB 12;
                                                      Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                      Query Match
Best Local Similarity 99.8%;
Matches 2694; Conservative (
                                                                                                                                                                                                                                                           241
                                                                                          н
                                                                                                           Н
                                                                                                                                                                                                                     181
                                                                                                                             61
                                                      Query Match
                                                                                                                                                5
                                                                                                                                                                  121
                                                                                                                                                                                                      181
                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
SKSSS
                                                                                                                                          8 & 8
                                                                                         8 6
                                                                                                                       ò
                                                                                                                                                                                               8 6 8 6
                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                        8 8
```

```
The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30de13C, Toxo30de12C and Toxo930 MIXI sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30de12C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30de13C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-TOxo30de13C(52-30da), MBP-TOxo30de14C(55-294a) and MBP-TOxO30MIXI fusion proteins. (I) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-TOxO930 fusion protein of the invention.
                                                                                                     Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCAATTCAGGGTGGTGAAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCGTGTGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGGTCTCGATGGTAGAACGAAGGAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    THECTGTGGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTTCTCGACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ccgacaccarcgaarggraaaaccrrrcgcggrarggcargaragcgcccggaagaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTCGCGCAACGCGTCAGTGGCCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rrcrccccaaccccrcagrccgrcarcarraacrarcccrccarcaccaccacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 12; Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Seguence 7370 BP; 1901 A; 1855 C; 1949 G; 1665 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6; Indels
                               TR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81.5%; Score 2690.4;
99.8%; Pred. No. 0;
iive 0; Mismatches
                               Bliese
                               Ginsburg SR,
                                                                                                                                                                                Example 2; Fig 15; 114pp; English,
                                                                                                                                                  antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 99.8
Matches 2694; Conservative
                             Patel CB,
                                                            2004-304563/28
 (BLIE/) BLIESE T R.
                                                                          P-PSDB; ADO23599
                             Maine GT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                             2100
                                                           2160
                                                                                       2160
                                                                                                                      2220
                                                                                                                                                                                2280
                                                                                                                                                                                                              2280
                                                                                                                                                                                                                                           2340
                                                                                                                                                                                                                                                                       2340
                                                                                                                                                                                                                                                                                                    2400
                                                                                                                                                                                                                                                                                                                                                               2460
                                                                                                                                                                                                                                                                                                                                                                                           2460
                                                                                                                                                                                                                                                                                                                                                                                                                            2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCAGGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                            GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAACACATGAATGCAGACACGATTAC
                                                                                                                                                                                                                                                                                                                     2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                     TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                              GCATGGTCCAACATCGACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                        AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                    GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                              GAAGCGGTTAATAAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                         TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                           TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                 GCATGGTCCAACATCGACACCAGCAAAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                         CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JNA encoding MBP-ToxoP30del3C(52-300aa) fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AD023598 standard; DNA; 7370 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAINE G T.
PATEL C B.
GINSBURG S R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JS2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic.
                             2041
                                                                                                                                                                                                                                          2281
                                                                                                                                                                                                                                                                      2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2521
                                                         2101
                                                                                       2101
                                                                                                                     2161
                                                                                                                                                  2161
                                                                                                                                                                              2221
                                                                                                                                                                                                            2221
                                                                                                                                                                                                                                                                                                    2341
                                                                                                                                                                                                                                                                                                                                                                2401
                                                                                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                                                                                         2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (MAIN/) N
(PATE/) E
(GINS/) C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                        8 6
                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
8 6
                                              ठे
                                                                              ద
                                                                                                                  ઠે
                                                                                                                                       윱
                                                                                                                                                                  ें
                                                                                                                                                                                                                                                                                                                                                  ે
                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ठ
```

ö

9 9 120 120 300

300 360 360 420

420

480

480 540 540 900

240

1881 GCGGCAACTGGCGCCTGAACTACTTCTGGGCAACGCGCTTTGGTGCTAC 1740	2041 SULT 12 023639 AD023639
61 TOGGCGATTOGGTCACCACAAATCCCATGAAGACGGTACCCGCCTATAAGTCTCTCCCG 60 61 TOGGCGATTOGGTCACCACAAATCCCCCTTAACCACCCCCTATAAGTCTCTCTC	1561 ATTAACGGCGATAAACGCTATAACGGTCTCGCTGAAGTCGGGTAAGAATTCGAGAAGT 1620 1621 ACCGGAATTAAAGTCCGTTGAGCATCCGGATAACTGGAAGAATTCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAAATTCCCACAGGTT 1680

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1320
                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 960
                                                                                                                                               420
                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTCGCATTGGCTCACCAGCAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGGGCATCGTTCCCACTGCGATGCTGCTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCACAAITICTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                             ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                  TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841 TGCGGGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Geergeergeschadeergescheingergenachterenengeschadeerge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGTGCAATC
                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                               TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGAACGGGAAGGCGACTGGGAGTGCCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                       241
                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                   361
                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                           301
                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       961
                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                셤
                                                                      8
                                                                                                        셤
                                                                                                                                             ò
                                                                                                                                                                          셤
                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ર્જ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to a purified P30 antigen (1) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and Toxo30 MIX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence of Toxo30del3C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence chosen from MBP-Toxo30del3C (52-300aa), MBP-Toxo30del4C (52-294aa) and MBP-Toxo30MIX1 fusion proteins. (1) is useful for detecting the presence of IgM antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspected of containing the IgM antibodies with a composition comprising (1) and detecting the presence of (1)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-TOXO930 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo30del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GFCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGTCTCTTATCAGACCGTTTCCCGCGTGGACCAGCCCAGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                    P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 12; Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 7370 BP; 1900 A; 1856 C; 1950 G; 1664 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .
9
                                                                                                                                                                                                                                                                                                                                                                                                                                           Bliese TR;
                                   DNA encoding MBP-ToxoP30MIX1 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81.5%; Score 2690.4;
99.8%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                           Ginsburg SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 5; Fig 31; 114pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antibodies to Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                              02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                          02-OCT-2002; 2002US-00263153
 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                MAINE G T.
PATEL C B.
GINSBURG S R.
BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2004-304563/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                               Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P-PSDB; ADO23640.
                                                                                                                                                                                                 US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2694;
01-JUL-2004
                                                                                                                                                                                                                                      08-APR-2004
                                                                                                                                                                Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                               (MAIN/) N
(PATE/) H
(GINS/) C
(BLIE/) H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
```

g

ያ ያ

g

ઠે

us-09-765-555b-17.rng

	2641 AAC 2641 AAC 2641 AAC 23649 ADO23649 Star ADO23649; 01-JUL-2004	 (MAIN/) MAINE G T. (GAIN/) PATEL C B. (GINS/) GINSBURG S R. (BLIE/) BLIESE T R. Maine GT, Patel CB, Gins WPI; 2004-304563/28. P-PSDB; AD023650.	Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, PT Toxo30del2C, ToxoP30 MXX1, useful for detecting presence of IgM or IgG Toxo30del2C, ToxoP30 MXX1, useful for detecting presence of IgM or IgG XX XX Example 5; Fig 35, 114pp; English. CC The invention relates to a purified P30 antigen (I) chosen from 3 fully CC defined Toxo30del3C, Toxo30del2C and ToxoP30 MXX1 sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of mono acids added to the five C-terminal cysteine amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence in maino acid sequence in amino acid sequence in the five C-terminal cysteine amino acid sequence in amino acid sequence in amino acid sequence in amino acid sequence in amino acid sequence in amino acid sequence in amino acid sequence in amino acid sequence in amino acid sequence in amino acid sequence of Toxo30del3C P3O antigen sequence chosen from MBP-CC mino acid sequence chosen from MBP-CC Toxo30del3C(52-300aa), MBP-Toxo30del4C(52-294aa) and MBP-Toxo30MX1 tusion proteins. (I) is useful for detecting the presence of IgM
1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGTGTGAAATCACTGCATAATTCG 1320 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTTGCGCCGACATCATAACGGTT 1380 1381 CTGGCCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGCCGACATCATAATGTGTGGA 1440 1381 CTGGCCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGCTGTATAATGTGTGGA 1440 1381 CTGGCCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGTCGTTTAAGGTGTTTTCACGA 1500 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTTTAGGTGTTTTCACGA 1500 1441 ATTGTGAGCGGATAACAATTTCACACAGGAAAACAGCCAGTTTAGGTGTTTTCACGA 1500 1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAAACTGGTAATCTGG 1560 1501 GCACTTCACCAACAAGGACCATAGATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG 1560	AGAT AGAT AGGT		3166 3166 3166 3166 3166 3166 3166 3166

Wed Aug

continuodise to Toxoplasma gondii in a test semple, which involves cuths a composition comprise that the composition comprise the composition comprise that the composition comprise the present sequence represents by an expense of 11/19M anthody Completes. The present sequence represents by according a Naph. Sequence 7130 BP; 1900 A; 187 C; 1850 C; 1863 T; 0 U, 0 ther; Overy March 201 Complete the comprise that the complete that the complete that the composition of the investor sequence represents by an expense of the complete that the complete			1201 GCACAATTCTCATGTTTGACAGCTTR 1201 GCACAATTCTCATGTTTGACAGCTTR 1201 TCAGCAGCCATCGGAAGCTGGTR 1261 TCAGGAGCCATCGGAAGCTGGTR 1261 TCAGGAGCCATCGGAAGCTGGTGTT 1321 TGTCGCTCAAGGCGAAGCTGTGGTTCT	1321 TGTCGCTCAGGCGCACTCCGTTCT	1501 GCACTTCACCAACAAGGACCATAGAN 1501 GCACTTCACCAACAAGGACCATAGGA 1561 ATTAACGGCGATAAAGGCTATAACGG 1621 ACCGGAATTAAAGTCACCGTTGAGC7 1621 ACCGGAATTAAAGTCACCGTTGAGC7 1621 ACCGGAATTAAAGTCACCGTTGAGC7 1621 ACCGGAATTAAAGTCACCGTTGAGC7	1681 GCGGCAACTGGCGATGGCCCTGACATGGCCTGACATGGCGATGGCCCTGACATGGGCATGGCCTTGACCTGACTGGCCTTGGCCTGAAATGGCCTGATGGCCTGAAATGGCCTTGGCCTGTTGGCTGAAATGGCCTTGGCTTGGCTTGGCTTGACTTGGCTTGACTTGGCTTGACTTGGCTTGAAATGGCTTAACAAAGAACTGGCTTATTATAAAAATGGCTGATTTATAAAAATGGCTGATTTATAAAAAAGAACTGGCTGATTTATAAAAAAGAACTGGCTGATTTATAAAAAAGAACTGGCTGATTTATAAAAAAGAACTGGCTGG
antibodies to Toxoplasma gondii in a test sample, which involves contacting the test sample suspenced of contacting the presence of (1)/79 and detecting the presence of (1)/79 manipody comparation to the present supple suspenced of contacting the presence of (1)/79 manipody comparation comprising (1) and detecting the presence of (1)/79 manipody comparation present of the invention. Sequence 1370 BP, 1900 A, 1857 C, 1950 G, 1663 T, 0 U, 0 other; Best Local Similarity 99.84; Pred. No. 0, 0, Mismatches 6; Indels 0, Gaps 1 CCGACACCACTACTACCACTACTACCACTACTACCACTACTAC	9	6 6 6 6	6 6 6 6	9 9 9 9	6 6 6 6 6	6 6 6 6 6 6 6 6 6 6 6 6
a de la companya de l	ama gondii in a test sample, which involves ample suspected of containing the IgM antibodies mprising (I) and detecting the presence of (I)/IgM to present sequence represents DNA encoding a MBP-1 of the invention. A; 1857 C; 1950 G; 1663 T; 0 U; 0 Other; 31.5%; Score 2690.4; DB 12; Length 7370; 99.8%; Pred. No. 0; ive 0; Mismatches 6; Indels 0; Gaps	CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA		AACAACTGGGGGGAAACAGTGGTGGTTGGGGGTTGCCCCCCCC	TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC TTCTCGCCGCAACGCTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAACGATGCCA TTCTCGCCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA TTCTCGCGCGCAACGCGCTCAGTGGTCGTGATTTTCTTGATGTTCTTGACCAGA TTGCTGTGGAAGCTGCACTAATGTTCCGGCGTTATTTCTTGATGTTCTTGACCAGA TTGCTGTGGAAGCTGCTGCACTAATGTTCCGGCGTTATTTCTTGATGTTCTCTGACCAGA TTGCTGTGGAAGCGTATTTTCTCCCATGAAGCGTTACTTGATGTTCTTGATGTTCCAGA CACCCATCAACAGTATTTTTCTCCCATGAAGCGTTACGCGCGCG	TGGTCGCATTGGGTCACCAGGCGTCTTAGCGGGCCCATTAGTTCTGTCTCGGGGTCGCATTGGGTCGCGTTGGGGGCCCATTAGTTCTGTCTCGGGGTCGCATTGGGTCGGGTCGTTGGGGGCCCATTAGTTCTGTCTCGGGGTCGCATTGGGGGGCCCATTAGTTCTGTCTCGGGGTCGCATTGGGGGGCCATTAGTTCTGTCTCGGGGGGCCATTGGGTCGGGTTGGGGGGGG
	Tat fat	8 6 8 6	è 8 è 8 è	68686	8 6 8 6 8 8	6 6 6 6 6 6 6 6 6

ibodies to Toxoplasma gondii in a test sample, which involves tacting the test sample suspected of containing the IgM antibodies	අ <u>ධ</u>	901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960
ibody complexes. The present sequence represents DNA encoding a MBP- oP30 fusion protein of the invention.	ठे ह	961 GCCTGCTGGGCAAACCAGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020
uence 7370 BP; 1900 A; 1857 C; 1950 G; 1663 T; 0 U; 0 Other;	9 8	
Match 81.5%; Score 2690.4; DB 12; Length 7370; Score 2690.4; OB 12; Length 7370; Score 2694; Pred. No. 0; R. 2694; Conservative 0: Mismatches 6: Indels 0: Gans 0:	3 8	AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCATA
GACACCATCGAATGGGGAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	S G	1081 CGCAAACCGCCTCTCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACACAGGTTT 1140
GTCAATTCAGGGGGGGAAATGTGAAACCAGTAAACGTTATACGATGTCGCCAGGATATGCCG [S G	1141 CCCGACTGGAAAGGGGCAGTGAGGCACACATTAATGTGAGTTAGCTCACTCA
GIGTCTCTTATCAGACCGTTCCCGCGTGAACCTTATCCGACGCCAGCCA	8 S	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260
CGGGGAAAAAGGGGGGGGGGGGGGGGGGGGGGGGGGGG	95 dg	1261 TCAGGCAGCCATCGGAAGCTGTAGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320
AACAACTGGGGGGAAACAGTGGTTGATTGGCGTTGCCACCTCCACTGGCCTGC	& 8	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTGCGCCGACATCATAACGGTT 1380
ACGCCCCAACTACAATTGTCCCTGCCTGCCCTGCCCCCCCC	yo, da	1381 CTGGCAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440
ACCUCATOR TO THE PROPERTY OF T	\$ 8	1411 ATTGTGAGGGATAACAATTTCACACAGGAAACAGCCCGTCTGTGGGGTGTTTTCACGA 1500
1 1 1 1 1 1 1 1 1 1	ò 8	1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGATAAACTGGTAATCTGG 1560
TIGGGGGAAGGGGCGGCAGGAAGAGGGGGGGTATTCCTGGCGGAAGGGCGAAAGGGGCGAAAGGGGCGGCGTATTCTTGTGGAAGGGCGAAAGGGGCGAAAGGGGCGGTATTCTTGTGAGGGCGAAAGGGGCGAAAGGGGCGAAAGGGGCGGAAGGGGGG	\$ 8	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGT 1620
CACCCATCAACAGTATTATTTCCCCATGAAGACGGTACGGGCTGGGCGGGGCGGGGCGGGGCGGGGGGGG	è 9	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGGTT 1680
	oy Dp	1681 GCGCDACTGGCCATGGCCTTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740
GGGTCTGCGTCTGGCTGGCTGACAAATACCGGGCCCCATTAAGTTCTGGCTCGGGGCCCCATTAAATATCTCACCGGAAAGTCAAAATACAGCCGATAAATATCTCACTCGCAAATCAAATTCAGCCGATAAGTCTCACTCGCAAATCAAATTCAGCCGATAAGTCAAAATATCTCAGCCGATAAGTCAAAATACAAAATAAAAAAAA	λ _O q _O	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGGGTTCCAGGACAAGCTGTAT 1800
901 CGCGACCGCTCGCCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720 721 CGGAACGGGAAGGCGACTGGACGTGCCATGTCGGTTTTCAACAAACGCAAGCTGA 780 721 CGCAACGGAAGGCGACTGGATGCCATGTCGGTTTTTCAACAAACGCAAGCTGA 780 721 CCCAACCGAACTGCAATCCCATTTTCAACAAACAAACGAAATGCTAAAAAAAA	ъ д	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
ATGAGGCATCCTTCCCACGCCGATGCCCCACGTTTTCACCAACCCATGCCAACCAACCAACCAACCCAACCCAACCCAACCCAACCCAACCAACCCAACCAACCCAACCAACCCAACCAACCCAACCAACCAACCAACCAACCCAACAACCAACCAAC	ò a	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
Alexasserates itecencises and a second control of the control of t	<i>상</i> 옵	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980
841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900 901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	ò	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGAGGGGGTTATGCGTTCAAG 2040

us-09-765-555b-17.rng

```
CIGCAAGAACCGIACITCACCIGGCCGCTGAITGCTGCTGACGGGGGTTATGCGTTCAAG 2040
                                                                                                                                                                                                                                  2220
                                                                                                                                                                         dorcrica de cristra de contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra del la contra del la contra del la contra del la contra del la contra de la contra de la contra del la contra de la contra de la contra de la contra de la contra del la contra del la contra del la contra de la contra de la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra
                                                                                                                                                                                                                                                                                                                                                               2280
                                                                                                                                                                                                                                                                                                                                                                                                           2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                    2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2461 TIGGCGAAAGAICCACGTATTGCCGCCACTATGGAAAGGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATGADAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCAAAAGCG
                                                                    TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCATGGTCCAACATCGACCACCAACAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGGCGAAAGATCCACGTATTGCCGCCACATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 encoding MBP-ToxoP30MIX3 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AD023644 standard; DNA; 7370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US2004067239-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUL-2004
  1981
                                                                                      2041
                                                                                                                               2101
                                                                                                                                                                         2101
                                                                                                                                                                                                                                                             2161
                                                                                                                                                                                                                                                                                                                                                  2221
                                                                                                                                                                                                                                                                                                                                                                                           2281
                                                                                                                                                                                                                                                                                                                                                                                                                                      2281
                                                                                                                                                                                                                                                                                                        2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2341
                                                                                                                                                                                                                      2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADO23644;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                      ò
                                                                                                           8 6 6 6
                                                                                                                                                                                                                                                                                                    8 6
                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
```

The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIXI sequences, having 1-6 amino acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acid sequence in amino acid sequence of Toxo30del3C P30 antigen sequence is substituted with alanine, or comprising the amino acid sequence is substituted with alanine, or comprising the amino acid sequence of substituted victs on proteins. (I) is useful for detecting the presence of IgM contacting the test sample suspected of contacting the IgM antibodies contacting the test sample suspected of contacting the IgM antibodies with a composition comprising (I) and detecting the presence of [I)/IgM complexes. The present sequence represents DNA encoding a MBP-very

Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, Toxo50del2C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.

Example 5; Fig 33; 114pp; English.

Bliese TR;

Ginsburg SR,

Patel CB,

Maine GT,

WPI; 2004-304563/28. P-PSDB; ADO23645.

(PATE/) PATEL C B. (GINS/) GINSBURG S R. (BLIE/) BLIESE T R.

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                          CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                          1 ccaacaccarcaarigaraccarricaccararigacararaccccaaaaaaa
                                                                                                                                                                                                                                                                                                                                                            GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                        61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                              GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGTGTCGATGGTAGAACGAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCGAACGCGTCAGTGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TICTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                            DB 12; Length 7370;
                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                      Sequence 7370 BP; 1900 A; 1857 C; 1950 G; 1663 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                        81.5%; Score 2690.4;
99.8%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                Best Local Similarity 99.8
Matches 2694; Conservative
                                                                                                                                                                                                                                                                                                                          --
                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
ò
                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

02-OCT-2002; 2002US-00263153 02-OCT-2002; 2002US-00263153

08-APR-2004

(MAIN/) MAINE G T.

us-09-765-555b-17.rng

ACCESALATIVAAGTICACCGTCAGACATTACTTCTGGGGCACACGGCTT 1 CCCGCAACTGGCGATGGCCTCAACATTATCTTCTGGGCACACGCTTTTGGTGGCTAC CCCGCCAACTGGCGATGGCCTCAACATTATCTTCTGGGCACACGCTTTTGGTGGCTACT CCCGCTACTTGGCCTTGGCTCAACATTATCTTCTGGGCACACGCTTTTGGTGGCTTCT CCCGTCAACTTGGCCTTGGCTAAATCACCCCGGAAAAGCGTTCAAGACGCTTTGTTGTTGCTTACCTGTTTTTTACACACGCCAAGACGTTCAACAGACCGTTTTTTTACACACGCCAAGACGTTCAATCGTTTACCTGGAAACCTTTACCTGGAAACCTTTACCTGGAAACCTTTACCTGGAAACCTTTACCTGGAAACCTTTACCTGGAAACCTTTACCTGGAAACCTTTACCTGGAAACCTTTACCTGGAAACCTTTACCTGGAAACCTTTAACACGCCAAACCTGGAAACCTTACACACGCCAAACCTGGAAACCTTACACACGCCAAACCTGGAAACCTTACAACACGCCAAACCTGGAAACCTTACAACACGCCAAACCTGGAAACCTTACAACACGCCAAAACCTTCAACTGGAAACCTGGAAACCTTACAACACGCCAAACCTGGAAAACCTTAAACAACACAAAACCTTAAACAAAC	2521 2581 2581 2641 2641
1 6 B 6 B 6 B 6 B 6 B 6 B 6 B 6 B 6 B 6	Db Qy Db Db Db
STATE CACCATCAACAGTATTATTTTCCCCATGAACACGTACGCCATCGCCATCGCCACCCCCCCC	1441

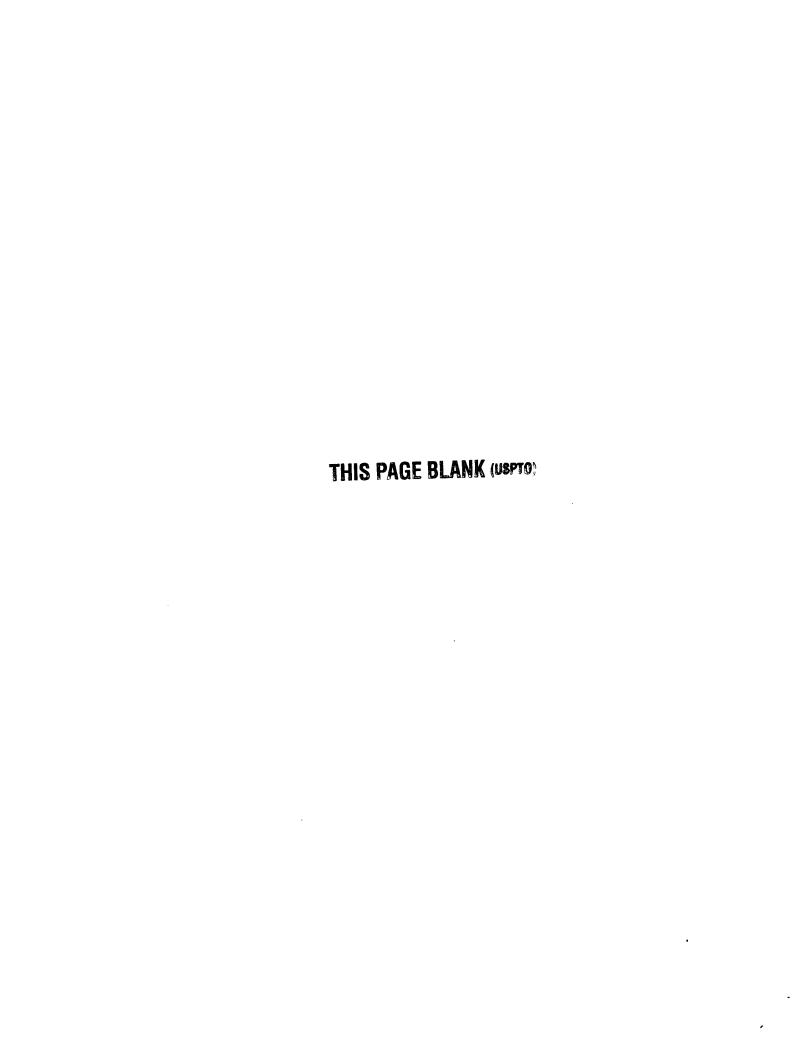
420 420 480 480 540 600 600 99 099 720 720 780 780 840 840 900 900 960 960

```
CGCGGGAAAAAGCGAAGCGGATCGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                    ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCCTGTAAAGCGGCGCGGTGCACAATC
                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                    TIGCTGIGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTCACCAGA
                                                                                                                                                                                                                    redricificaredaleaaceaaceecercaaecereraaaeceeceecaecaare
                                                                                                                                                                                                                                              TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                          CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAACATC
                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCAATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841 recedentracceaercesecrececerrecesararcressarace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCGACTGGAAAGCGGGCAGTGAGCGCAATTAATGTGAGTTAGCTCACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCAAACCGCCTCTCCCGGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCAAACCGCCTCTCCCCGCGCGTTGGCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                           241
                                                                                                                                     301
                                                                                                                                                              301
                                                                                                                                                                                           361
                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                             à
                                                                                                     a
                                                                                                                                                        g
                                                                                                                                 ò
                                                                                                                                                                                        ò
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to a purified P30 antigen (I) chosen from 3 fully defined Toxo30del3C, Toxo30del2C and ToxoP30 MIXI sequences, having 1-6 amino acids acids added to the C-terminus of the amino acid sequence of Toxo30del2C P30 antigen sequence, or comprising an amino acid sequence in which at least one of the five C-terminal cysteine amino acids of the amino acid sequence is substituted with alamine, or comprising the amino acid sequence is substituted with alamine, or comprising the amino acid sequence chosen from MBP-TOXO30del3C F30 antigen sequence chosen from MBP-TOXO30del3C (52-230aa), MBP-TOXO30del4C(52-294aa) and MBP-TOXO30MIXI fusion proteins. (I) is useful for detecting the presence of IgM contacting the test sample suspected of containing the IgM antibodies contacting the test sample suspected of containing the IgM antibodies with a composition comprising (I) and detecting the presence of (I)/IgM antibody complexes. The present sequence represents DNA encoding a MBP-TOXOP30 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel purified polypeptide having sequence identity to amino acid sequence of P30 antigen of Toxoplasma gondii e.g. Toxo30del3C, ToxoP30 MIX1, useful for detecting presence of IgM or IgG antibodies to Toxoplasma gondii.
                                                                                                                          P30 antigen; Toxo30del3C; Toxo30del2C; ToxoP30 MIX1;
MBP-Toxo30del3C(52-300aa); MBP-Toxo30del4C(52-294aa); MBP-Toxo30MIX1;
Toxoplasma gondii; ds; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
81.5%; Score 2690.4; DB 12; Length 7403;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches 6; Indels 0; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 7403 BP; 1907 A; 1863 C; 1961 G; 1672 T; 0 U; 0 Other;
                                                                                              DNA encoding MBP-ToxoP30del2(52-311aa) fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                          TR;
                                                                                                                                                                                                                                                                                                                                                                                                          Bliese
                                                                                                                                                                                                                                                                                                                                                                                                          SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 2; Fig 11; 114pp; English
                  BP
                                                                                                                                                                                                                                                                                                                                                                                                         Ginsburg
                  DNA; 7403
                                                                                                                                                                                                                                                                             02-OCT-2002; 2002US-00263153
                                                                                                                                                                                                                                                                                                         02-OCT-2002; 2002US-00263153
                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                 (MAIN/) MAINE G T.
(PATE/) PATEL C B.
(GINS/) GINSBURG S R.
(BLIE/) BLIESE T R.
                                                                                                                                                                                                                                                                                                                                                                                                       Maine GT, Patel CB,
                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2004-304563/28.
P-PSDB; ADO23595.
                ADO23594 standard;
                                                                                                                                                                                 gondii
                                                                                                                                                                                                                          US2004067239-A1
                                                                                                                                                                                                                                                    08-APR-2004.
                                                                                                                                                                                   Toxoplasma
                                                                                                                                                                                                 Synthetic
                                          AD023594;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
```

1080

ò ద ઠે 유 8 8

	Search completed: August 1, 2005, 04:28:52 Job time : 1102.6 secs					
1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGTGGAGGTCGTAAATCACTGCATAATTCG 1320	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAAATTCCCACAGGTT 1680	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGGCTTCCAGGACAAGCTGTAT 1800	1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATGCTGACGGGGGTTATGCGTTCAAG 2040	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC 2160	



Н

```
STREET: 340 Kings:
CITY: Nutley
STATE: N.J.
COUNTRY: U.S.A.
ZIP: 07110
US-08-971-036-1
                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 785, App
Sequence 785, App
Sequence 785, App
Sequence 785, App
Sequence 785, App
Sequence 785, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
Sequence 784, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Appli
Sequence 1, Appli
Sequence 2, Appli
Sequence 3, Appli
Sequence 3, Appli
Sequence 2, Appli
Sequence 18, Appl
Sequence 18, Appli
Sequence 35, Appli
Sequence 35, Appli
                                                                              August 2, 2005, 10:29:49; Search time 352.4 Seconds (without alignments) 15322.682 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                         1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
                                                                                                                                                                                                                                                                                                                                                                 /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
           GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-971-036-1

US-09-096-570-1

US-09-027-169-3

US-09-640-882-2

US-09-640-882-3

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-148-675A-2

US-08-141-248-785

US-09-736-457-785

US-09-736-457-785

US-09-671-125-785

US-09-659-437-62

US-09-659-437-62

US-09-659-437-62

US-09-659-437-62

US-09-659-437-62

US-09-659-437-62

US-09-659-437-784

US-09-659-437-785

US-09-659-437-785

US-09-659-437-784

US-09-659-437-784

US-09-705-784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-589-184-784
US-09-658-824-784
US-08-646-538-7
                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                    1202784 segs, 818138359 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                           - nucleic search, using sw model
                                                                                                                                                                                IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                        Issued Patents NA:*
                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                 US-09-765-555B-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55443
55502
5502
5502
5502
5502
5516
6353
6353
6353
6353
6353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1417
11336.6
11336.2
11366.2
11366.2
111999.2
111999.2
111999.2
111999.2
111999.2
111999.2
111999.2
                                                                                                                                             Perfect score:
                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                          OM nucleic
                                                                                                                                                          Sequence:
                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                        Database
                                                                                  Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Result
```

```
3, App
8, App
3, App
4, App
4, App
4, App
4, App
4, App
4, App
4, App
                                                            Appli
Appli
                             Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                      Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2; Length 7475;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFWWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                           US-08-891-848-2
US-08-891-8462-5
US-08-125-462-5
US-09-128-314-4
US-09-05-556-213
US-09-072-596-208
US-09-072-596-208
US-09-643-594-254
US-09-643-594-254
US-09-643-615A-254
US-09-666-4218-254
US-09-666-4218-254
US-09-666-4218-254
US-09-6128-314-3
US-09-128-314-3
US-09-128-314-3
                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Attwood, Michael R
APPLICANT: Hurst, David N
APPLICANT: Horse, David N
APPLICANT: Jones, Philip S
APPLICANT: Kay, Paul B
APPLICANT: Raynham, Tony M
APPLICANT: Righnam, Tony M
APPLICANT: Wilson, Francis X
TITLE OF INVENTION: Amino Acid Derivatives
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION DAIR

APPLICATION MURBER: US/08/971,036
FILING DATE: 14-NOV-1997
CLASSIFICTATION S30
PRIOR APPLICATION DATE:
APPLICATION NUMBER: GB 9623908.2
FILING DATE: 18-NOV-1996
ATTORNEY/AGENT INFORMATION:
NAME: Kreisler, Lewis J
REGISTRATION NUMBER: 38622
REFERENCE/DOCKET NUMBER: RAN 4430/073
TELECOMMUNICATION INFORMATION:
TELEPHONE: (973) 235-2363
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                  ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81.8%; Score 2700;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Hoffmann-La Roche Inc.
STREET: 340 Kingsland Street
                                                                                                                                                                                                                                                                                                                                                                              US-08-971-036-1; Sequence 1, Application US/08971036; Patent No. 586684; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 7475 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
```

1021 AGGGCAATCACCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA 1080 1081 CGCAAACCGCCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGGTTT 1140	1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACTGAATGTGAGTTAGCTCACTCA	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260 	1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320 	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 	1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA 1500 	1501 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG 1560 	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCGGATAAACTGGAAGAAATTCCCACAGGTT 1680 	1681 GCGGCAACTGGCCATGGCCTTAACTTCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740 	1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT 1800 	1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860 	1861 GAAGCGTTATCGCTGATTTATAACAAGATCTGCTGCCGAACCCGCCAAAACCTGGGAA 1920 	1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040 	2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACATGAATGCAGACACCGATTAC 2160
a & a	충 A 	· 영	8 6	<i>\$</i> ₽	S S	යි යි	yo da	λ _O	oy Oy	oy Oy	oy Oy	à à	à g	<i>ਨ</i> ਰ	S S	ov G	\dagger \text{q}
<pre>Best Local Similarity 100.0%; Pred. No. 0; Matches 2700; Conservative 0; Mismatches 0; Indels 0; Gaps 0; 1 CCGACACCATCGATGGTGCAAAACCTTTCGCGGTATGGCATGATAGGCCCGGAAGAGA 60 </pre>	61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTGGCAGAGTATGCCG 120 	121 GTGTCTTATCAGACGTTTCCCGCGTGGTGAACCAGGCCAGCCA	181 CGCGGGAAAAAGTGGAAGCGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 240 	241 AACAACTGGCGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 	301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCGGG 360 	SCGGCGGTGCACAATC SCGGCGGTGCACAATC	421 TICTCGCGAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480 	481 TIGCIGIGGAAGCIGCCCGCACTAAIGIICCGGCGTIAITICCIGAIGICCCCGACCAGA 540 	BCATC 	71.066 71.066	661 GGGGTCTGGGTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCGGATAG 720 	721 CGGAACGGGAAGGCGACTGGGGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780 	781 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840 	ATACG			

m

q

ઠે

g 8 요 ò 셤 ઠે

ઠે

REFERENCE/DOCKET NUMBER: RAN 4430/073
TELECOMMUNICATION INFORMATION:
TELEPHONE: (973) 235-2363
TELEFAX: (973) 235-2363
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 7475 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
TOPOLOGY: circular
MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO

ö

g

ò 셤 ઠે 셤 ठे 요 ठे g

ß

1080

960

1080

1140

1200

1200

```
CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCGTCGCTCGTATAATGATGGA
                                                                                                                                                                                                                                                                                                                                                                                            GCACTTCACCAACAAGGACCATAGAAAACTGAAAAGTAAAACTGGTAAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGCAACTGGCCGTTGACCTTGTGGCGCACACGGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGATCCCGGCGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGGCGCGCTGATCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGAGGGGGTTATGCGTTCAAG
                                          GCCTGCTGGGGGCAAACCAGGGGGGGCCCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                              TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                            TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                     CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTCTGGA
                                                                                                                                                                                                                                                                                                                                             ATTGTGAGCGGATAACAATTTCACACAGGGAAACAGCCAGTCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCGGCAACTGGCCGTTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
              ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCCAGGCGGTGA
                                                                     CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                       GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                            TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                  GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                         ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCEGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                1441
                                                                                                                                                                                                                                                                                                                                                                                                                                            1561
                                                                                        1021
                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                    1321
                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                              1441
                                                                                                                                                                                                                                                                                                                                                                                                     1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1981
                                                  961
                                                                      1021
                                                                                                                              1081
                                                                                                                                                 1141
                                                                                                                                                                    1141
                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                       1381
                                                                                                                                                                                                                                                                                                                                                                                   1501
                                                                                                                                                                                                                                                                                                                                                                                                                         1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1681
              901
                                                                                                           1081
                                                                                                                                                                                       1201
                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 6 6 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQ
                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                      9
9
                                                                                                                                                                                                                                                                                                                                      상
음
                                                                                                                                                                                                                                                                                                                                                                            상염
                                                                                                                                                                                                                                                                                                                                                                                                                   8 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
              8 8
                                            g
                                                                   8 8
                                                                                                    8
                                                                                                                        d
                                                                                                                                                상
음
                                                                                                                                                                               à
                                                                                                                                                                                                    g
                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                        음 &
                                                                                                   ö
                                                                                                                                                          120
                                                                                                                                                                            120
                                                                                                                                                                                               180
                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            960
                                                                                                                    9
                                                                                                                                     9
                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGGGCGCTGGGGCGCAA ATGAGGGCATCGTTCCCACTGGGCGAACGATGCTGGTTGCTGGTTGCCAACGATGGTGGTGGTGGTTGCCAACGATGATGGTGGCGCAA
                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACGCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGAACGGGAACGCGACTGCATGTCCCGGTTTTCAACAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                               Grencritarcagaccerricecegegegaaccageceagecacerricegaaaa
                                                                                                                                                                                                                                      CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                 ACGCCCCCCCCCAAATTGTCCCCGCCGATTAAATCTCGCCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                       TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGCGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGGGAAGGCGACTGCCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                   Gaps
                                          Artificial Sequence: Vector and
                                                                                                  ö
                                                                                                 Indels
                                                                               Length
                                                                                                 ö
                                                                               3;
                                                                               DB
                                                                             81.8%; Score 2700; D
100.0%; Pred. No. 0;
:ive 0; Mismatches
LENGTH: 7475
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Gene Fragments
US-09-265-6178-1
                                                                            Query Match
Best Local Similarity 100.
Matches 2700; Conservative
                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                        181
                                                                                                                    н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                           61
                                                                                                                                                                                               121
                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 6 8 6
                                                                                                                                                                                                                                                                                                                                                 6 6 6 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 8 8
                                                                                                                                g
G
                                                                                                                                                         8 6
                                                                                                                                                                                                              8 6 8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                    ઠ
                                                                                                                                                                                         &
```

1500

1500

1560

1560

1620

1680 1680 1740

1620

1800 1800 1860 1920 1920 1980 1980 2040

1380 1440 1440

1320 1320 1380

8 셤 ठे 윰 ò 셤 ò g

용

ઠે

유

ઠે 셤 ò 유 8 셤 ò 유 õ g

ઠે

```
1264 GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1144 CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                  1564 GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1504 CAATICAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   783 GAGGCCATCGTTCCCACTGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                      CAATTCAGGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCTCTTATCAGACCGTTTCCCGGCGTGGTGAACCAGGCCAGGCTTTCTGCGAAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              964 GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGTCTGCGTCTGGCTGGCTTAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            904 CGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  844 GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                 CAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1204 GIGGIGICGAIGGIAGAACGAAGCGGCGICGAAGCCIGIAAAGCGGCGGGGCAATCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                             DB 3; Length 5926;
                                                                                                                                                                                                                                                                                                                                 9; Indels
 Query Match
43.0%; Score 1417.6;
Best Local Similarity 98.6%; Pred. No. 0;
Matches 1455; Conservative 0; Mismatches
                                                                                                                                                                                                                                                          US-09-027-169-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 543
                                                                                                                                                                                                                                                                                                                                                                 m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    603
                                                                                                                                                                                                                                                                                                                                                                                              엄
                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                        2280
                                                                                                                                                                                                                                                                                                                             2340
                                                                                                                                                                                                                                                                                                                                                                                                2400
                                                                                                                                                                                                                                                                       2221 GCATGGTCCAACATCGACAACAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2580
CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG 2040
                                                                 2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100
                                                                                                                                  2161 TCCATCGCAGAAGCTGCCTTTAATAAGGCGAAACAGCGATGACCATCACCATCAACGGCCCGTGG 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIGGCGAAAGATCCACGTATIGCCGCCACCAIGGAAAACGCCCAGAAAGGIGAAATCAIG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2641 AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGAATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2700
                                                                                                        GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                             TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                  GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                  2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGAACATCCCGCAGATGTCCGCTTTTCTGGTATGCCGTGCGTACTGCGGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2641 AACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                        AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                           GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3, Application US/09027169
Patent No. 6420524
GENERAL INFORMATION:
APPLICANT: CRAIG, NANCY L
TITLE OF INVENTION: GAIN OF FUNCTION MUTATIONS IN
TITLE OF INVENTION: ATP-DEPENDENT TRANSPOSITION PROTEINS
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Anne Brown (Alston & Bird, LLP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 27608
ZIP: 27608
MEDIUM TYPE: Floppy disk
COMPUTER: Eloppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
APPLICATION NUMBER: US/09/027,169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E: Anne Brown (Alston & Bird, 3605 Glenwood Ave.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 3605 Gl
CITY: Raleigh
STATE: NC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-027-169-3/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
ZIP: 276
1981
                               2041
                                                                                                      2101
                                                                                                                                                                             2161
                                                                                                                                                                                                                                                  2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2461
                                                                                                                                                                                                                                                                                                                        2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2581
                                                                                                                                                                                                                                                                                                                                                                                             2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2461
```

1385

362

602 965 722

```
CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGGATATCTCGGTAGTGGGATACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGCTGGGGCAAACCAGCGTGGACCGCTTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                 CAATTCAGGGTGGTGAATGTGAAACCGGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                             CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                           CAACTGGCGGGCAACAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                         GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                   GTGGTGTCGATGGTAGAACGAACGAGCGTCGAAGCCTGTAAAGCGGCGGTGCAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1346 GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAACGGGAAGGCGACTGGCCATGTCCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCCCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATACCGAAGACAGCTCATGTTATATCCCGCCGTCAACCACCATCAAACAGGATTTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCCAGGCGGTGAAG
                                                                                      86 GACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGTT
                                                                                                                   CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                      CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                          GCGCCGTCGCAAATTGTCGCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                       GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAACGGGAAGGCGACTGGGAGTGCCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                              Gaps
                              5
 Length 5201;
                              10; Indels
 DB 4;
; Score 1362; DB
; Pred. No. 0;
0; Mismatches
 41.3%;
                              Conservative
Query Match
Best Local Similarity
Matches 1380; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1586
                                                                                                                                                                                                                                                                1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1826
                                                                                                                                                                                                         986
                                                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                               243
                                                                                                                                                                                                                                                                                                                            1106
                                                                                                                                                                                                                                                                                                                                                                                       1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     963
                                                           m
                                                                                                                   63
                                                                                                                                                926
                                                                                                                                                                             123
                                                                                                                                                                                                                                                                                                                                                          303
                                                                                                                                                                                                                                                                                                                                                                                                                    363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                               Б
                                                                                                                 ò
                                                                                                                                       g
                                                                                                                                                                          ò
                                                                                                                                                                                                 g
                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/09640882

Patent No. 6720142

GENERAL INFORMATION:

GENERAL INFORMATION:

TITLE OF INVENTION:

FILE REPERENCE: 176660851

CURRENT PILLING DATE: 2000-08-18

CURRENT FILLING DATE: 1999-08-19

PRIOR FILLING DATE: 1999-08-19

NUMBER OF SEQ ID NOS: 17

SEQ ID NO 2

LENGTH: 5201

LYPE: DNA

ORGANISM: Artificial Sequence

FATURE DATE INFORMATION: DATE: 201

CURRENT PILLING DATE: 1999-08-19

NUMBER OF SEQ ID NOS: 17

SEQ ID NO 2

LENGTH: 5201

TYPE: DNA

ORGANISM: Artificial Sequence

FATURE INFORMATION: DACSE2

US-09-640-689-2
                                                                                                                                                                                                                       1082
                                                                                                                                                                                                                                                                                                                                          1202
                                                                                                                                                                                                                                                                                                                                                                                                     1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1382
                                                                                                                                                              1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCAAATATTCTGAAATGAGCTGTTGACAATTAATCAT-CGGCTCGTATAATGTGTGGGAA 1441
                                                                                                                                                                                                                                                                                CAAACCGCCTCTCCCCCCCCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCC 1142
                                            902
                                                                        665
                                                                                                     962
                                                                                                                                  605
                                                                                                                                                                                           545
                                                                                                                                                                                                                                                    485
                                                                                                                                                                                                                                                                                                             425
                                                                                                                                                                                                                                                                                                                                                                       376
                                                                                                                                                                                                                                                                                                                                                                                                                                  316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                195 GGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCCGGCTCGTATAAATGTGTGGAA 136
                                                                                                                                                                            CTGCTGGGGCAAACCCAGGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGCTCAAGGCGCACTCCCGTTCTCGATAATGTTTTTTGCGCCGACATCATAACGGTTCT
                                                                                                   GATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGC
                                                                                                                                                                                                                                     544 GGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAGAAAAAACAACCCTGGCGCCCAATACG
                                                                                                                                                                                                                                                                                                 CAAACCGCCTCTCCCCGCGCGTTGGTTCATTAATGCAGCTGGCACGACAAGTTTCC
                                                                                                                                                                                                                                                                                                                                          1203 ACAATTCTCATGTTTGACAGCTTATCATGGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                      GAATTGATCTGGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1263 AGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCGTGAAATCACTGCATAATTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                315 AGGCAGCCATCGGAAGCTGTGGGTTGGCTGTGCAGGTCGTAAATCACTGCATAATTCGTG
                GAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATG
                                            CCCCCATTACCGAGTCCGGCCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGAC
                                                             724 CGCCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGGATATCTCGGTAGTGGGGATACGAC
                                                                                                                               664 GATACCGAAGACAGCTCATGTTATATCCCGCCGTCAACCCATCAAACAGGATTTTCGC
                                                                                                                                                            CTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTGAGGGCCAGGCGGTGAAG
                                                                                                                                                                                                                       GGCAATCAGCTGTTGCCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGTGAGCGGATAACAATTTCACACAGGAAACAGCC 1477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIGIGAGCGGATAACAATTTCACACAGGAAACAGAC 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 5
US-09-640-882-2
                                                                                                                                                                                          604
                                                                                                                                                                                                                                                                                1083
                                                                                                                                                                                                                                                                                                                                          1143
                                                                                                                                                                                                                                                                                                                                                                       424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    255
                                                                                                                                                                                                                                                                                                                                                                                                                                  375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1442
                                                                                                                                                                                                                       1023
                                                                                                                                                                                                                                                                                                             484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1383
                                            843
                                                                                                   903
                                                                                                                                                            963
                                                                                                                                                   දු පු
                                                                                                                                                                                                                  8 &
                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
             음 장
                                                                셤
                                                                                         જે
                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ℰ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

422

1045

182

925 122 985 1105

242

1165

302

1225

362

1345

482

1405

602

542

1465

1525

662

1585

782

722

1645

842

1825 1022 1885

962

1765

1345

482

1405

1465

662

ઠે

1645

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                          2982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1080
                                                                                                                                                                                    2802
                                                                                                                                                                                                                                                             2862
                                                                                                                                                                                                                                                                                                                                 2922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 3162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGAACGGGAAGGCGACTGGAGTGCCCATGTTTCAACAAACCATGCAAATGCTGA 3342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAGAAAAACCACCCTGGCGCCCAATA 3642
                                                                                                                                                240
                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                    2623 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                             CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                            AACAACTGGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                      TGGTGGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3343 ATGAGGGCATCGTTCCCACTGCGGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3403 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                         241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                 ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                    ACGCCCCCCCCAAATTGTCGCGCCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                        TGTGTGTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3043 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3643 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                          GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                181
                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                   2863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                    2743
                                                                                                                                                                                                                                                             2803
                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                          2923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3583
   61
                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                   g
                                                                                                                                                                                                                                                     임
                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                              ò
                                                                                                                                              ð
                                                                                                                                                                                   셤
                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                  APPLICANT: UENO, EIICHI
APPLICANT: UENO, MASAHISA
APPLICANT: OKADA, MASAHISA
TITLE OF INVENTION: FUSED DNA SEQUENCE, FUSED PROTEIN
TITLE OF INVENTION: EXPRESSED FROM SAID FUSED DNA SEQUENCE AND METHOD FOR
TITLE OF INVENTION: EXPRESSING SAID DNA SEQUENCE
TITLE OF INVENTION: EXPRESSING SAID DNA SEQUENCE
TOWNER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
ADDRESSEE: P.C.
                    2243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 2622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
TCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCCACATCATAACGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: E. COLI
STRAIN: BL21 (DE3)
PUBLICATION INFORMATION:
AUTHORS: NOBUVUKI FUJII ET AL,
TITLE: FUSED DNA SEQUENCE, FUSED PROTEIN EXPRESSED
TITLE: FROM SAID FUSED DNA SEQUENCE AND METHOD OF
TITLE: EXPRESSING SAID FUSED PROTEIN
RELEVANT RESIDUES IN SEQ ID NO: 5: FROM 1 TO 4557
                                                                                                                                                                                                                                                                                                                                                                                     SSEE: P.C., J. S. S. JEFFERSON DAVIS HIGHWAY, SUITE 400 ARLINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
36.5%; Score 1204; DB 4;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1204; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/778,717
FILING DATE: 12-DEC-1996
CLASSIFICATION NUMBER: US/08/778,717
FILING DATE: 20-DEC-1996
APPLICATION NUMBER: JP 35225/1995
FILING DATE: 28-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: OBLOW, NORMAN F.
REGISTRATION NUMBER: 24,618
REGISTRATION NUMBER: 24,618
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 2084-031-0
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 100-000-0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: circular
MOLECULE TYPE: other nucleic acid
ORIGINAL SOURCE:
                                                                                                                                            RESULT 7
US-08-778-717-5
; Sequence 5, Application US/08778717
Patent No. 6602689
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: 703-413-3000
TELEFAK: 703-413-2220
INPORMATION FOR SEQ ID NO: 5: SEQUENCE CHARACTERISTICS: LENGTH: 4557 base pairs TYPE: nucleic acid STRANDEDNESS: double
                                                   1383 GGCAAATATTCT 1394
                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-778-717-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Н
                    2184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                 Š
```

임 ઠે g

```
ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 362
                                                                                                                                                                                    482
                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                             662
         AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 302
                                                                                            TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 420
                                                                                                             480
                                                                                                                                                                                                                                              542
                                                                                                                                                                                                                                                                                                      602
                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                     722
                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      962
                                    ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                          TICTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                   TIGCTGTGGAAGCTGCCTGCATAATGTTCCGGGGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                       TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                  TTCTCGCGCAACGCGTCAGTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                              TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              783 ATCAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGTTGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tecececcattacceaetccesecrececetrescesaratcrestrates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           843 recedentracceaercesecreceserresrecesararerceseracearace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1083 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACGACGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 9
US-08-487-283A-18/c
Sequence 18, Application US/08487283A
Patent No. 6355245
GENERAL INFORMATION:
APPLICANT: Evans, Mark J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1203 GCAC 1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCAC 1204
                                                                                                                                                                                 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196
                                    301
                                                               303
                                                                                            361
                                                                                                                         363
                                                                                                                                                    421
                                                                                                                                                                                                                                        483
                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                   543
                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                          603
                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                663
                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                 ò
                                                           셤
                                                                                           ò
                                                                                                                 셤
                                                                                                                                              ò
                                                                                                                                                                           g
                                                                                                                                                                                                  õ
                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                   8 6
                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 % B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Grercrerarcadacerreceeergergaaceagecagecacerrecegaaaa 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 CCGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGGTAGGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCGGGAAAAAGTGGAGGGGGGGGGGGGGGGGCTGAATTACATTCCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACAACTGGGGGGAAACAGTGGTGGTTGGGGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                           Sequence 2, Application US/08148675A
| Patent No. 5506121
| GENERAL INFORMATION:
| APPLICANT: Skerra, Arne; Schmidt, Thomas
| TITLE OF INVENTION: STREPTAVIDIN
| TITLE OF INVENTION: STREPTAVIDIN
| TORRESPONDENCE ADDRESS:
| ADDRESSE: Felfe & Lynch
| STREFT: 805 Third Avenue
| CITY: New York City
| COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1; Length 3832;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                    COUNTRY: USA.

ZIP: 10022
COMPUTER READBLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 360 kb storage COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/148,675A
FILING DATE: 3-NOV-1993
CLASSIFICATION: 435
FILING DATE: 3-NOV-1993
CLASSIFICATION: DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 134,266
REFERENCET NUMBER: 34,266
REFERENCET NUMBER: 1401
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               36.4%; Score 1200.8;
99.8%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (212) 688-9200
TELEPAX: (212) 838-3884
INPORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 3832 bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 99.8
Matches 1202; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TOPOLOGY: linear
US-08-148-675A-2
                                          GCAC 1204
                                                                       GCAC 3766
                                                                                                                RESULT 8
US-08-148-675A-2
                                            1201
                                                                       3763
                3703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
```

중 염

ઠે 셤 ठ व ठ

g

à.

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3611
                                                                                                                                                                           4331
                                                                                                                                                                                                                                                   4271
                                                                                                                                                                                                                                                                                                                            4211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3790 AGGGCAATCAGCCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCCAATA 3731
                         4451
                                                                                                4391
                                                                                                                                                                                                                                                                                                                                                                                                       4151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                  099
                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4090 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4030 ATGAGGGCATCCCTCCCACTGCCGGATGCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAAACCACCATCAACAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3730 CGCAAACCGCCTCTCCCCGCGCGTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                  4330 TIGCIGIGGAAGCIGCCTGCACTAAIGTICCCGGCGTTATTICTIGAIGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                            4270 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                     4210 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTCTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                4150 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781 ATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3850 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                    4390 TTCTCGCGCAACGCGTCAGTGGCCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                         CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                  TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                            661 CGCGTCTGCGTCTGGCTGGCTTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT-US96-05611A-21/C
; Sequence 21, Application PC/TUS9605611A
; GENERAL INFORMATION:
; APPLICANT: Mueller, John P.
; APPLICANT: Lenardo. Michael J.
; APPLICANT: Meralland, Henry F.
; APPLICANT: Matis, Louis A.
; APPLICANT: Mueller, Eileen Elliott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3610 GCAC 3607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCAC 1204
                         4510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                              361
                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                           ઠે
                                                                                        g
                                                                                                                             ò
                                                                                                                                                                     g
                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4810 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGGAAGAGA 4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1570 AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
APPLICANT: Matis, Louis A.
APPLICANT: Mueller, Eileen Elliott
APPLICANT: Nye, Steven H.
APPLICANT: Nother, Russell P.
APPLICANT: Rother, Russell P.
APPLICANT: Springhorn, Jeremy P.
APPLICANT: Springhorn, Jeremy P.
APPLICANT: Thomas, Thomas C.
APPLICANT: Thomas, Thomas C.
APPLICANT: Wilkins, James A.
TITLE OF INVENTION: OF INFLAMMATORY DISEASES
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 3; Length 5248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: Circular
MOLECULE TYPE: Other nucleic acid
DESCRIPTION: DET Trc SO5/NI
DESCRIPTION: prokaryotic expression vector
                                                                                                                                                                                                                                                                                                                                                      COMPUTER READBLE FORM:
MEDIUM TYPE: 3.5 inch, 1.4Mb storage
COMPUTER: Macintosh Cetris 610
CORPUTER: Macintosh Cetris 610
CORFATING SYSTEM: System 7
SOFTWARE: WordPerfect 3.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,283A
FILING DATE: June 7, 1995
PRIOR APPLICATION NUMBER: US 08/236,208
FILING DATE: 02-MAY-1994
ATTORNEY AGENT INFORMATION:
REFERENCE/DOCKET NUMBER: ALX-152.1 CIP
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: (203)772-3655
INFORMATION FOR SEQ 1D NO: 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       36.3%; Score 1199.2; 99.8%; Pred. No. 0; active 0; Mismatches
                                                                                                                                                                                                                                              ADDRESSEE: Seth A. Fidel
STREET: 25 Science Park (Alexion)
CITY: New Haven
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 5248 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 99.8 Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                         Connecticut
: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
US-08-487-283A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
4510 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 4451
                                                                                                                                                        4211
                                                                                            TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 4391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4030 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1970 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3670 ¢¢¢¢acregaaAg¢¢¢¢¢qqqqqqcqcaAc¢¢aarraArgraAgrraqcrcAcrearra
                                                                                                                                   TTCTCGCGCAACGCGTCAGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                              CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                          TGGTCGCATTGGGTCACCAGCAAATCGCGCGTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                               TGGTCGCATTGGGTCACCAGCAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGAACGGGAAGGCGACTGGCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961 GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021 AGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3730 cicharccicriciccccccccciringerincarrangcaccicccicacaccic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 11
US-10-263-103-35/c
; Sequence 35, Application US/10263103
; Patent No. 6821723
; GENERAL INFORMATION:
; APPLICANT: AVENTIS PASTEUR
; APPLICANT: Chevalier, Michel
; APPLICANT: El Habib, Raphaelle
; APPLICANT: Krell, Tino
; APPLICANT: Sodoyer, Regis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3610 GCAC 3607
                                                      361 7
                                                                                                                                                                                                                                                      4330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                         4390
                                                                                                                                                                                                                                                                                                                                  4270
                                                                                                                                                                                                                                                                                                                                                                                                                 4210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                   421
                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                         199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                                       g
                                                                                                                                 à
                                                                                                                                                                 셤
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                     Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4810 CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 4751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 4571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GIGICTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCCCTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4690 GIGICICITATCAGACCGITICCCGCGIGGIGAACCAGGCCAGCCACGITICTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241 AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    36.3%; Score 1199.2; DB 5; Length 5248; larity 99.8%; Pred. No. 0; Conservative 0; Mismatches 3; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .;
0
APPLICANT: Nye, Steven H.
APPLICANT: Pelfrey, Clara M.
APPLICANT: Squinto, Stephen P.
APPLICANT: Squinto, Stephen P.
APPLICANT: Milkins, James A.
TITLE OF INVENTION: Modified Myelin Protein Molecules NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS:
ADDRESSE: AMAUTICE M. Klee
STREET: 1951 Burr Street
CITY: Pairfield
STATE: Connecticut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            prokaryotic expression vector
                                                                                                                                                                                                                                                                                                       COMPUTER: MacIntosi Cellular OPERATING SYSTEM: System 7
SOFTWARE: Microsoft Word 6.0.1
CURRENT APPLICATION DATA:
PRICOR DATE: 02-MAY-1995
CLASSIFICATION:
PRICOR APPLICATION DATA:
APPLICATION NUMBER: 08/431,644
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/431,648
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/431,648
FILING DATE: May 2, 1995
APPLICATION NUMBER: 08/482,114
FILING DATE: June 7, 1995
ATFORNEY/ARDT INFORMATION:
REGISTRATION NUMBER: 30,399
REFERRECE/DOCKET NUMBER: ALX-129
TELECOMMUNICATION INFORMATION:
TELEPHONE: (203) 255 1400
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
FEMCTH: 5248 base pairs
                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 0.8 Mb storage
COMPUTER: Macintosh Centris 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: Circular
MOLECULE TYPE: Other nucleic acid
DESCRIPTION: pET Trc SOS/NI
DESCRIPTION: prokaryotic express
PCT-US96-05611A-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 5248 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 1201; Conserv
                                                                                                                                                                                                                                              ZIP: 06430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
```

유 ò 셤 ò 셤 ò ď ે g

```
1020
                                                                                                                                                                                                                                               AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCAATA 1080
                                                                                                                                                                                                             3603
                                                                                                                                                                                                                                                                                                                                                                                                       3782 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                             GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAGACTCTCTCAGGGCCAGGCGGTGA
                     TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                        GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                              CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                    3542 CGCAAACCGCCTCTCCCCCGCGCGTTGGCCCGATTCATTAATGCAGCTGGCACGACGACGGTTT
                                                                                                ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                      ACGATACCGGAAGACAGCTCATGTTATATCCCGCCGTTAAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-929-967-1/C

Sequence 1, Application US/08929967

Sequence 1, Application US/08929967

Patent No. 5891637

GENERAL INFORMATION:

TITLE OF INVENTION: Construction of Full-Length cDNA Libraries

NUMBER OF SEQUENCES: 16

CORRESPONDENCE ADDRESS:

ADDRESSEE: Genentech, Inc.

STREET: 1 DNA WAY

CITY: South San Francisco

STATE: California

COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 5443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READBLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: 1BM PC computation to the computer System: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/929,967
FILING DATE:
FLING DATE:
FLING DATE:
FLING DATE:
FLING DATE:
FLESTRATION NUMBER: 33,055
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Ginger R.
REGISTRATION NUMBER: 33,055
REFERENCE/POCKET NUMBER: 33,055
REFERENCE/POCKET NUMBER: 91035R1
TELECHMUNICATION INFORMATION:
TELEPHONE: 650/225-3216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              36.3%; Score 1199.2;
99.8%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 5443 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 36.3
Best Local Similarity 99.8
Matches 1201; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3422 GCAC 3419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 94080
                                                                                                901
                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                  3722
                                                                                                                                                                                                             3662
                                                                                                                                                                                                                                                                                        3602
                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                       841
                                                                                                                                                                          961
                                                                                                                          g
                                                                                                                                                                        ò
                                                                                                                                                                                                 g
                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3963
                                                                                                                                                                                                                                                                                                                                            4263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4262 TGGTGGTGTCGATGGTAGAACGAACGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC 4203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9962 CGCGTCTGCGTCTGGCTGGCTGGCTGGCAAAAAATTCTCACTCGCAATCAAATTCAGCCGATAG 3903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3842 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 3783
                                                                                                                                                                                                                                                                                                                                                                                                                                             4202 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 4143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4142 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 4083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTGGTGTCGATGGTAGAACGAACGGCGTCGAAGCCTGTAAAGCGGGCGCGCACAATC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4322 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1082 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1022 regredearregereaccadeaarcececrerrageececearragererege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                            .
0
                                                                                                                                                                                                                                                                     Length 5312;
                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                         DB 4;
                                                                                                                                                                                                                                                                                                            .
G
                                                                                                                                                                                                                                                                     Query Match
36.3%; Score 1199.2;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 1201; Conservative 0; Mismatches
TITLE OF INVENTION: gp41 antigen
FILE REFERENCE: 01-1692-A
CURRENT APPLICATION NUMBER: US/10/263,103
CURRENT FILING DATE: 2002-10-02
NUMBER OF SEQ ID NOS: 35
SOFTWARE: Patentin version 3.1
SEQ ID NO 35
LENGTH: 5312
                                                                                                                                                                                                   ; OTHER INFORMATION: plasmid per-cer US-10-263-103-35
                                                                                                                                                    TYPE: DNA
ORGANISM: Artificial
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      જે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

ઠે

a ઠે 셤 ठे g ò g ð a ò 임 ઠે a ö

Db 3730 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGGGTTT 3671 QY 1141 CCCGACTGGAAAGCGGCAGTGAGCGCAATTAATGTGAGTTAGTT	RESULT 13 US-09-702-705-785/C is Sequence 785, Application US/09702705 j Parent No. 6554010 j Parent No. 6554010 j Parent No. 6554010 j PAPLICANT: Wang, Tongtong j APPLICANT: Bangur, Chaitanya S. APPLICANT: Fanger, Gary j APPLICANT: Carter, Marc j APPLICANT: Retter, Darrick APPLICANT: Retter, Darrick APPLICANT: Retter, Marc j APPLI	SEQ 1D NO 78 LENGTH: 55 TYPE: DNA ORGANISM: -09-702-705- Query Match Best Local S Matches 1201		4557 GTGTCTCTTATCAGACGGTGGTGGTGAACGGGCGGGGGTGGTGGGAAAA 181 CGCGGGAAAAGTGGAAGCGGCGTGGTGGTGAACCAGGCCAGGCTTTCTGGGAAAA 181 CGCGGGAAAAAGTGGAAGCGGCGATGGCGAGGCGAATTACATTCCCAACCGGTGGCAC 4497 CGCGGGAAAAAGTGGAAGCGGCGATGGCGAGGCTGAATTACATTCCCAACCGCGTGGCAC 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGCCTTGCTCCCAACCGCGTGGCAC 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGCCGCTTGCCACCTCCAGTCTGGCCTGCACCGCTTGCTACTCCTGCTTGCT	301 4377 361 4317 421
CGGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGGAG 60	36CAC 	4330 TTGCTGTGGAAGCTGCACTAATGTTCCGGGGTTATTTCTTGATGTCTCTGACGGA 4271 541 CACCCATCAACAGATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 600 4270 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 4211 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGCCCCATTAAGTTCTGTCTCGG 660 4210 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGCCCCATTAAGTTCTGTCTCGG 660 4210 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGCCCCATTAAGTTCTGTCTCGG 4151	661 CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAT	781 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA 840 4030 ATGAGGCCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGCGCAA 3971 841 TGCGCGCCATTACCGAGTCGCGCTTGGTGCGATATCTCGGTAGGGATACG 3970 TGCGCGCCATTACCGAGTCCGGTTGGTGCGATATCTCGGTAGTGGGATACG 3971 ACGATACCGAGTCCGGGCTTGGTGCGCGATATCTCGGTAGTGGGATACG 3911	3910 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 3851 961 GCCTGCTGGGGGCAAACCAGCGTGACCGCGTTAACCACCATCAGGCCAGGCGGTGA 1020

8 g 8 õ

ઠે

```
4318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3778
                                                                                                                                                                                                                                                                                                                                                                               4438
                                                                                                                                                                                                                                                                                                                                                                                                                                    4378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3838
                                                                                                                                                                                                                 4618
                                                                                                                                                                                                                                                                     4558
                                                                                                                                                                                                                                                                                                                          4498
                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                   CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGCGCCGTCGCAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGGGAAGGCGACTGGGGTTTTCAACAAACCATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3837 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                     CGGACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                        4617 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                      ACGCCCCCCCCCAAATTGTCCCCGCCGATTAAATCTCGCCCCCGATCAAACTGGCTGCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cecercrecercrecrescrescaraararcrecrescaarcaarreagecearas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                            GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                         4557 GIGICICITAICAGACCGITITCCCGCGIGGIGAACCAGGCCAGCCACGITICIGCGAAAA
                                                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                          AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                               Gaps
                                                                                                                                                              ö
                                                                                                                                    Length 5502;
                                                                                                                                                            3; Indels
                                                                                                                                    DB 4;
                                                                                                                                  Score 1199.2;
Pred. No. 0;
0; Mismatches
CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
SEQ ID NO SEQ IO Windows Version 3.0
SEQ ID NO 785
LENGTH: 5502
                                                                                                                                  Query Match 36.3%;
Best Local Similarity 99.8%;
Matches 1201; Conservative (
                                                                           TYPE: DNA
; ORGANISM: Homo sapien
US-09-736-457-785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4137
                                                                                                                                                                                                                 4677
                                                                                                                                                                                                                                                                                                                                                                               4497
                                                                                                                                                                                                                                                                                                                                                                                                                                    4437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3897
                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                        ò
                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                        4078
                                                                                                                                                            4018
                                                                                                                                                                                                                 3958
                                                                                                                                                                                                                                                                     3898
                                                                                                                                                                                                                                                                                                                          3838
                                                                                                                                                                                                                                                                                                                                                                               3778
                                                                                                                                                                                                                                                                                                                                                                                                                                   3718
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3478
                                                     4138
 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 4198
                                                                               600
                                                                                                                                    999
                                                                                                                                                                                       720
                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                     3957 CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                              3837 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                      3717 GCCTGCTGGGCAAACCAGGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGACGCATC
                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3657 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCCATA
                                                                                                                                                        1077 resrecentresercaceascaarceceretraseceseceatraastrereres
                                                                                                                                                                                     CGCGTCTGCGTCGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                         CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                ATGAGGCCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                     TGCGCGCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                          ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 785, Application US/09736457

Sequence 785, Application US/09736457

GENERAL INFORMATION:
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Fanger, Michael A.
APPLICANT: Fenger, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Fanger, Aljun
ITILE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
ITILE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAC 3474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-736-457-785/c
                                                                                                       4137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3597
                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                          3897
                                                                                                                                                                                                                                                                                                                                                                                                                                   3777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3537
                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                  601
                                                                                                                                                                                     661
                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                  임
                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                ద
                                                                                                                                                                                                                                     ठे
                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
```

셤

ઠે

4198

4138

540

4078

4018

9

3718

3838

780

3778

us-09-765-555b-17.rni

```
TGGTGTCTCGATGGTAGAACGAAGCGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                 TGGTCGCATTGGGTCACCAGCAAATCGCGCTCTTAGCGGGCCCCATTAAGTTCTGTCTCG
                                                                                                                                                                                                                                                                                                                                                                              3897 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGGCAATCAGCTGTTGCCCGTCTCACTGGTQAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGCGCAAATC
                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGGCAATCAGCTGTTGCCCCGTCTCACTGGTGAAAAAAGAAAAACCACCCTGGCGCCCAAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACAGGTTT
                                    ACGCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                  TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                  CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                  CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGGCCATCGTTCCCACTGCGATGCTGGCTACCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3597 CGCAAACCGCCTCTCCCCGCGCGTTGGCGGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3, 2005, 02:32:31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search completed: August
Job time : 356.4 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201 GCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3477 GCAC 3474
                                                                                                                                                                                                                                                                                                                                                        4017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3837
            4437
                                                             4377
                                                                                                            4317
                                                                                                                                                           4257
                                                                                                                                                                                                          4197
                                                                                                                                                                                                                                                        4137
                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                        4077
                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3657
                                    301
                                                                                     361
                                                                                                                                    421
                                                                                                                                                                                                                                  541
                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                  8
                                                      엄
                                                                         & 43
13
                                                                                                                           8 6 6 6
                                                                                                                                                                                                                              8 8 8
                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                       8 6
                                                                                                                                                                                                                                                                                                                                                                                                                      8 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                        3717 GCCIGCIGGGGCAAACCAGCGIGGACCGCTIGCTGCAACTCTCTCAGGGCCAGGGGGTGA 3658
                                                                                                       AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCTGGCGCCCAATA 1080
                                                                                                                                                      CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1140
                                                                                                                                                                    4618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                      GCCTGCTCGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGGGAAAAAGTGGAAAGCGGCGATGGCGGAGCTGAATTACATTCCCCAACCGGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Fanger, Tongtong
APPLICANT: Fanger, Tom
APPLICANT: Panger, Tom
APPLICANT: Respect Tom
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
TITLE OF SINVENTION: 1012.4 7802
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT APPLICATION NUMBER: US/09/614,124B
SOFTWARE: FactSQ for Windows Version 3.0
SEQ ID NO 785
LENGTH: 5502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 4; Length 5502;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1199.2;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                       // Sequence 785, Application US/09614124B
// Patent No. 6630574
// GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 99.8%;
Matches 1201; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Homo sapien
US-09-614-124B-785
                                                                                                                                                                                                                                                    GCAC 1204
                                                                                                                                                                                                                                                                           3477 GCAC 3474
                                                                                                                                                                                                                                                                                                               RESULT 15
US-09-614-124B-785/c
                              3777
                                                                                                                                                                             3597
                                                                                                                                                                                                     1141
                                                                                                     1021
                                                                                                                                                                                                                                                    1201
                                                                                                                                                      1081
        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
       8 6
                                               8 8
                                                                                                ठे है ठे
                                                                                                                                                                    ద
                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                         용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          දු දු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठ हे ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8.
```

н

Page

```
Sequence 18, Appl
Sequence 14, Appl
Sequence 15, Appl
Sequence 16, Appl
Sequence 1, Appli
Sequence 5, Appli
                                                                                                                                                            Search time 1309.2 Seconds (without alignments)
16314.373 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      number of results predicted by chance to have a an or equal to the score of the result being printed, y analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 17,
                                                                                                                                                                                                                                                                                                                                          1 ccgacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cgn2_6/ptodata/1/pubpna/USO7_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO6_PUBGOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO6_PUBGOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO6_PUBGOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO6_PUBGOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubpna/USO0_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pubna/USO0_PUBCOMB.seq:*
| Cgn2_6/ptodata/1/pub
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-765-555-17
US-09-765-555-18
US-09-765-555-14
US-09-765-555-15
US-09-765-555-16
US-10-257-384A-1
US-10-149-472-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7287783 segs, 3236178273 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Published_Applications_NA:*
                                                                                                                                                                  2, 2005, 10:29:49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Maximum Match 100%
Listing first 45 summaries
                                                                                                             nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                         Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                score greater than or equal to
and is derived by analysis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                  US-09-765-555B-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1180110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3300
3300
3300
3300
3300
7373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                            IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the
                                                                                                                                                                        August
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98.0
97.4
97.4
97.2
82.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3232.8
3232.8
3215.2
3215.2
3207.2
2705.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                            Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB
Maximum DB
                                                                                                          OM nucleic
                                                                                                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database
                                                                                                                                                               Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š.
```

```
Sequence 54, Appl Sequence 2, Appli Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 3, Appli Sequence 2, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli GENERAL INFORMA
                                                          40, Appl
30, Appl
31, Appl
25, Appl
20, Appl
61, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11, Appl
11,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Appli
7, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1, Appli
Sequence 2, Appli
Sequence 19, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                              Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Seq
                                                          Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Partial sequence of pMal-m4 and zinc finger; CTHER INFORMATION: protein ZFPm4
US-09-765-555-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION Methods and compositions to modulate;
TITLE OF INVENTION: Methods and compositions to modulate;
TITLE OF INVENTION: Methods and compositions to modulate;
TITLE OF INVENTION: expression in plants;
FILE REFERENCE: 27801-20014.40
CURRENT APPLICATION NUMBER: US/09/765,555
CURRENT FILING DATE: 2000-01-21
PRIOR APPLICATION NUMBER: US 60/177,468
PRIOR PLILING DATE: 2000-01-21
PRIOR PLILING DATE: 2000-01-21
PRIOR PLILING DATE: 2000-01-21
PRIOR PLILING DATE: 2000-01-21
SROFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 17
FAMORY 1700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                 <u>DB</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-270-176-1
US-10-270-176-2
US-10-270-176-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 3300;
100.0%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 17, Application US/09765555; Publication No. US20030037355A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 100.
Matches 3300; Conservative
US-09-765-555-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 3300
                           1417.6
1238.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1237.2
1237.2
1237.2
1237.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2605.4
1609.4
                                                                                                                                                                                                                                                                                                                                                          2690.4
2636.8
2636.8
2636.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1462.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1462.
```

ö

	81 CTGGCAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 144 81 CTGGCAAATTTCTGAAATGAGCTGTTAATCATCGGCTCGTATAATGTGTGGA 144 81 CTGGCAAATATCTGAAATGAGCTGTTAATGATGTGTGGA 144 81 ATTGTGAGCGGATAACAATTTCACAAGGAAACAGCCGGTTTAGGTGTTTTCACGA 150 81 ATTGTGAGCGGATAACAATTTCACAAGGAAACAGCCAGTCGGTTTAGGTGTTTTCACGA 150 81 ATTGTGAGCGCGATAACAATTTCACAAGGAAACAGCCAGTCGGTTTTTCACGA 150 81 ATTGTGAGCACAAACAAGGAAACAAGGAAACAGCAGTAATTCACGA 150 81 GCACTTCACCACAAAGGACCATAGATTATGAAAACTGAAGATAAACTGG 156 81 GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAAAAGGTAAACTGGTAATCTGG 156 81 ATTGTGACAAAAACTGAAAAACTGAAAAACTGGAAAACTGGTAATCTGG 156 81 ATTGTGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	1561 ATTACGGCGATRAAGGTTCGCTGAAGTCGGTAAGAATTCGAGAAGAT		198 198 204 210 210 216 222
	3 8 6 8 6 8	3 8 8 8 8 8	6 6 6 6 6	6 6 6 6 6 6 6 6
CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60		481 TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTCTTGATGTCTCTGACCAGA 540 [11	CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACCGCATCAAATTCAGCGATAG [### 1 TGCGCGCCATTACCGAGTCCGGGCTGGCGCGGATACCGCGGAGTGCGCATACCGCGCATACCGAGTCCGGGTGCGGATACCGAGTCCGGGGTGCGGGTAGTCGGGATACCGGGGTGCGGGTGCGGGTAGTCGGGATACCGGGCTGCGCGTGGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGCTGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGTAGTCGGGGGTAGTCGGGGGTAGTGGGGTTAGTCGGCGGTTAACCGATCAACAGGATTTTC 960 ###################################

m

6 6 6 6

a

ò

g

ò

셤

8

a

셤

6 8 6 8 6 8 6

Š

```
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGGAAAAAGGGGGGGGGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TIGCTGTGGAAGCTGCCTGCACTAATGTTCCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGCCCCTCCCAAATTGTCGCGCCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCGTGTGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 ccgacaccarcgargergeaaaccrrrcgcggrarggcargaragcgcccggaagaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCGAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 10; Length 3300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; OTHER INFORMATION: Parial sequence of pMal-Ap3 and zinc finger; OTHER INFORMATION: protein ZFPAp3
US-09-765-555-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               42; Indels
                                                                                                                                                   modulate
                                               GEOGUE 2

GEOGUE 2

SEQUENCE 18, Application US/09765555

Publication No. US20030037355A1

GENERAL INFORMATION:
APPLICANT: The Scripps Research Institute
ITILE OF INVENTION: Methods and compositions to mod;
ITILE OF INVENTION: Methods and compositions to mod;
ITILE REFERENCE: 27801-20014.40

CURRENT APPLICATION NUMBER: US/09/765,555

CURRENT FILING DATE: 2002-05-24

PRIOR FILING DATE: 2000-01-21

PRIOR FILING DATE: 2000-01-21

PRIOR FILING DATE: 2000-01-21

PRIOR FILING DATE: 2000-01-21

PRIOR FILING DATE: 2000-01-21

NUMBER OF SEQ ID NOS: 75

SOFTWARE: FABELSEQ FOR Windows Version 4.0

SEQ ID NO 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98.0%; Score 3232.8;
ilarity 98.7%; Pred. No. 0;
Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
Matches 3258; Conserv
                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3240
                                                                                                               2340
                                                                                                                                                     2340
                                                                                                                                                                                         2400
                                                                                                                                                                                                                               2400
                                                                                                                                                                                                                                                                    2460
                                                                                                                                                                                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                                                                                                                                                                                                        2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGCT 3300
                                                                                                                                                                                                                                                                                                                                                                  2461 TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                              2521 CCGAACATCCCCCCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGGGGGGATGTCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2581 GCCAGCGGTCGTCAGACTGTCGAGAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGTCTTTCAGTGATTGTCGTGATCTTGCGAGGCACCAACGTACTCACACGCGGGAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCCAACGTACTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCGGTAAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGACGTTCCGGACTACGCT
TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                   2281 AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                           2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACGACGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                        2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACAACAACAACAATAACAATAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGGAATGTGGTAAGTCCTTCAGCCAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC
                                                           GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                               AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                         GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                              TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                          CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCCGGGGAAGCCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGAGCAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCGTACCCACACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCAGCGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                       GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3241
                                                                                                               2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3241
                                                                                                                                                                                         2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3121
                                                                                                                                                                                                                                                                  2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2761
                                       2221
                                                                         2221
                                                                                                                                                                                                                                                                                                                                            2461
                                                                                                                                                                                                                                                                                                                                                                                                                          2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2581
```

g

g

ò

g

ઠે

a

ઠે

g

ઠે

8 & 8

ઠે

ò

174 GCTCAMTCTGGCCTGTGAATTACCCGGACACACCCCCCCACACACCTTTT 180 174 GCTCAMTCTGGCCTGTGAATTACCCCGGACACACCTTTT 180 174 GCTCAMTCTGGCCTGTGAATTACACCGGACACCTGATTGCTTCCCCCCCACACCTTTT 180 180 CCTTTACCTGGCCTTGATTACACCGCTACACTGATTGCTTCCCCCCCACACCTTTT 180 180 CCTTTACCTGGCCTTGATTATACACCGCACACTGATTGCTTCCCCCCCACACCTGGTA 122 181 GAACCCTTACCTGATTATACACCGCACACCTGATTGCTTCCCCCCCACACCTGGTA 122 181 GAACCCTTCCTGGATTATACACCTGATTCTTCCTGCCCCCCCC
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
61 TOSTICGLATIOGGICALCAMATCACCTICALCAMACACCCATIANGTICICICICS 62 GOOGGICACCTICACCTICACCTICACCTICACCTICACCCATIANT CTACCTICACCCATIANT CTACCTICACCCATIANT CTACCTICACCCATICACTICACCCATICACTICACCCATIANT CTACCTICACCCATICACTICACCCATICACTICACCCATICACTICACCCATICACTICACCCATICACTICACCCATICACTICACTICACTICACTICACTICACTICACTICACTICACCACTICAC

8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

	181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGTGAATTACATTCCCAACCGCGTGGCAC 240	241 AACAACTIGGGGGGCAACAGTGGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 [301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360	361 TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGGACAATC 420	421 TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480	481 TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGGGGTTATTTCTTGATGTCTCTGACCAGA 540	541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC 600 541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATC 600	601 TGGTCGCATTGGGTCACCAGCAATCGCGGTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG 660	661 CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720 	721 CGGAACGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780	781 ATGAGGGCATCGTTCCCACTGCGATGCTGCTTGCCAACGATCAGATGGCGCTGGGCGCAA 840	841 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG 900	901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC 960	961 GCCTGCTGGGGCAAACCAGCGTCGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020	1021 AGGCAATCAGCTGTTGCCGTCTCACTGGTGAAAGAAAAACACCCTGGCGCCCAATA 1080	1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1140 1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1140	1141 CCCGACTGGAAAGCGGCAGTGAGCGCAACTAATGTGAGTTAGCTCACTCA	1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG 1260
QΩ	9 9	oy B	S 6	S q	දු පු	oy Q	상 원	O, Pp	oy Pb	& g	6 G	상 염	S G	Oy Dp	y d	6 6y	\$ Q	ò
2821 ACGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGCCAGAGCAGCAGC 2880	2821 ACGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGTCCAGCAAC 2880 2881 CTGGTGCGCCATCAACGCACTCATACTGCGAGAAGCCATAAATGTCCAGAATGTGGC 2940	2881 CTGGTGGCCTTCACGCACTCTACTGGCGAAGCCATACAATGTCCAGAATGTGGC 2940 2941 AAGTCTTTCAGTGATTGTCGTGATTCTTGCGAGGGCCCAACGTACTACTCACACGGGGGAAGAA 3000	2941 AGICTITCAGCCAGCAGCACCACCACGTACTCACCGGGGGAGAAG 3000 3001 CCCTATGCTGCGGAATGTGGTGCGTCCTCACAGCTCTCACCGGGGGGGCCC 3060	3001 CCTATCTTGTCCGGAATGTGTGTATCTTTTGGCACCCATGGCTCCTTGTTAGACAC 3060 3061 CAGCGTACCCACACGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTAGC 3120	3061 CAGCGTACCCACACGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120 3121 GGCAGCGATAAACTGGCCATCAACGCACTGACGAGAGCGATAAATGT 3180	3121 CAGCGCCCCCCTGGAACGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180 3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCCATTTGGTCGCGACAACGAAAGTCAC 3240	3181 CCAGAATGTGGCAAGTCTTTCTCAACTTCAGGCAACTTGGTCCGTCACCAACGTACGT	3241 ACCGGTAAAAAACTAGTGGCCAGGCCAGTACCCGTACGACGTCCGGACTACGCT 3300	Jur 3 765-555-14 equence 14, Application US/09765555 Lablication No. US20030037355A1	NEKAL INCORMITON: PPLICANT: THE SCRIPPS Research Institute ITLE OF INVENTION: Methods and compositions to modulate ITLE OF INVENTION: expression in plants	TALE MESTERALLY: 2/001-2/014-4/01-2/014-4/01-2/014-4/01-2/014-4/01-2/014	LICATION UNBER: US 60/177,468 LICATION UNBER: US 60/177,468 ING DATE: 2000-01-21 SEQ ID NOS: 75	ODCINATE: FABLES TO MINGOWS VEISION 4.0 LENGTH: 3300 TYPE: DNA	ONTHER INFORMATION: Partial sequence of pMal-ml and zinc finger OTHER INFORMATION: protein ZFPml	ilarity 98.4%; Score 3215.2; DB 10; Length 3300;	TCGAATGCTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA 60	GTCAATTCAGGGTGGTGGAATGTGAAACCAGTAACGTTATACGATGTGTGCGAGAATGTGCCG	61 GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAAGTATGCCG 120 121 GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCCACGTTTCTGCGAAAA 180

6 B 6 B 6

φ

Wed

2700 2820 2940 3120 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT CAGCGTACCCACACGGGGGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC AACAACAACAATAACAATAACAACAACCTCGGGGATCGAGGGAAGGATTTCAGAATTC AAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCACACCGGGGAGAAG GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCCGGGGAGAAGCCCTATGCTTGT CCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCACCAGCGTACCCAC AAGTCTTTCAGTGATTGTCGTGATCTTGCGAGGCACCAACGTACTCACACCGGGGAGAAG ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGAGCAGCAGC CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCAC CAGCGTACCCACACGGGTGAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC CCAGAATGTGGCAAGTCTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC 3181 CCAGAATGTGGCAAGTCTTTCTCTCGGTCTGACAATCTCGTCCGGCACCAACGTACTCAC ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCGTACGTTCCGGACTACGCT 3241 ACCGGTAAAAAACTAGTGGCCAGGCCGGCCAGTACCCGTACGGTCCGGACTTCCGGACTACGCT CGCAGCGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT

1080

1140 1140 1260 1260 1320 1320 1380 1380 1440 1440 1500 1500 1560

1200

1620 1620 1680 1680

```
1020
                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                          1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1860
                                                                                                                                                                                   1020
     780
                                                                                                                                                                                   GCCTGCTGGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAA
                                                                                                                                                                                                CGCAAACCGCCTCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                         GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGCCACTGGCCATGCCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                            ACGATACCGAAGACAGCTCATGATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                        CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                          GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCAGGCAGCCATCGGAAGCTGTGTATGCTATGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTGTGAGCGGATAAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCGCCAACTGGCCGATGGCCCTGACATTATCTTCGGCCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGGGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
     CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                             ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                TGCGCGCCCATTACCGAGTCCGGCCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                          901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                      AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTCGCTCAAGGCGCACTCCCGGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           crescabatatricreaaargagcrerreacaarraarcarcescresrarargrerea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1501 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1741
                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1741
                                                     781
                                                                                841
                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                                                                                                                                                                                                               1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1801
                                                                                                                                  901
                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1681
                                                                                                                                                                                   961
                                                                                                                                                                                                             961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S a
                            ઠે
                                               g
                                                                               8
                                                                                                    원
                                                                                                                                δ
                                                                                                                                                     g
                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                         GIGICTTTATCAGACCGTTTCCCGCGTGAACCAGGCCAGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGCCCCTCCCAAATTGTCCCCGCGATTAAATCTCGCCCCGATCAACTGGGGCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361 TGGTGGTCGATGGTAGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGTCTGCGTCTGGCTGGCTGGCTAAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                   CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                   1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                   Length 3300;
                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                              pMal-m2 and zinc finger
                                                                                                                                                                                                                                                                            53; Indels
                                                                                                                                                                                                                                                   DB 10;
                                                                                                                                                                                                                                                 97.4%; Score 3215.2;
98.4%; Pred. No. 0;
iive 0; Mismatches
TITLE OF INVENTION: expression in plants
CURRENT APPLICATION NUMBER: uS/09/765,555
CURRENT FILING DATE: 2002-05-24
PRIOR APPLICATION NUMBER: uS 09/620,897
PRIOR FILING DATE: 2000-01-21
PRIOR FILING DATE: 2000-01-21
PRIOR FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 75
SOFTWARE: PSESEQ for Windows Version 4.0
SEQ ID NO 15
LENGTH: 3300
                                                                                                                                                                                              OTHER INFORMATION: Partial sequence of OTHER INFORMATION: protein ZFPm2
                                                                                                                                                         TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                             Best Local Similarity
Matches 3247; Conserv
                                                                                                                                                                                                             ; OTHER INFORM
US-09-765-555-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                    -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    දු පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 6 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                      6 ይ
                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              જે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          중 음
                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
```

09 2941 AMCHITICAGTANTGTGTANTGTTGACCAACCACCAACCAACCACCAGGAAAA 3000 294 AMCHITICAGTGATTGTGTANTGTTGACCAACCACCAACCAACCACCAGGAAAA 3000 294 AMCHITICTTCGATTCACCAACCACCAACCAACCAACCAACCAACCA	181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC 241 AACAACTGGCGGGAAAAGTGGTTGCTTGCTTGCCGTTGCCTGGCCTGC [
1861 GANGCOTATICCCTGATTTATAACAMGATCTGCTGCGAACCCCCAALAACTTGCAAL 1920 1861 GANGCOTATICCCTGATTTATAACAMGAACTGCCGAAACTCCCCAALAACTCGCAALAACTCCCCCCAALAACTCCCCCCCAALAACTCCCCCCCAALAACTCCCCCCCAALAACTCCCCCCCC	2881 CTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940

1381 CTGGCAMATATTCTGAMATGACTGTTGACATTAMTCATCGGTCGTTAMATGTGTGAN 1440 1141
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
21 MACALTGCGGGCANACATICGTGGCTTAATTCTCCCCCCATCACTCGCCCCTCCATCTCGCCCCTCCCATCCTCGCCCCTCCCAACCTCCCCCCTCCAACCTCCCCCCTCCAACCTCCCCCTCCAACCTCCCCCTCCAACCTCCCCCC

გ

à

셤

ò

a

ò

g

ò 요 ò 8 6 8

ठे 음 8

셤

ò 원 ठे 유 8 ద

유 ठे

à 셤

ò

```
361 TGGTGGTGTCGATGGTAGAAGGAGGGGTCGAAGCCTGTAAAGCGGCGGTGCACATC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 CGCGGGAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 AACAACTGGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCGCCGTCGCAAATTGTCGCGCCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301 ACGCGCCGTAATTGTCGCGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421 TICICGCGCAACGCGICAGIGGGCTGAICAITAACTAICCGCIGGAIGACCAGGAIGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181 CGCGGGAAAAACTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                      FRATURE:
NAME/KEY: CDS
LOCATION: (1528)..(3453)
OTHER INFORMATION: /product = fusion protein MBP Cystatin C BMP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 7373;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DATABASE ACCESSION NUMBER: Entrez Nucleotide database/AF031813
DATABASE ENTRY DATE: 2001-05-07
RELEVANT RESIDUES: 1528 - 3453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 82.0%; Score 2705.8; DB 18; Lengt Best Local Similarity 99.2%; Pred. No. 0; Matches 2719; Conservative 0; Mismatches 22; Indels
                                                                                                                                                                                                                                                      FEATURE:
NAME/KEY: misc_feature
LOCATION: (2669)
OTHER INFORMATION: Faktor Xa Protease /position=388
OTHER INFORMATION: (Amino acid sequence)
FEATURE:
NAME/KEY: misc_feature
LOCATION: (3067)...(3108)
OTHER INFORMATION: /spacer between Cystatin C andBMP-2
PUBLICATION: NFORMATION:
AUTHORS: Zwick, M B.
TITLE: Expression vector pMal-X, complete sequence
JOURNAL: Anal. Biochem.
VOLUME: 24
SISSUE: 1
PAGES: 87-97
DATE: 1998-11-01
PAGES: 87-97
DATE: 1998-11-01
                                                                                                                           FEATURE: OTHER INFORMATION: Expression vector pwalc2cchbmp2
                                                                             TYPE: DNA ORGANISM: Artificial Sequence
         SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                               SEQ ID NO 1
LENGTH: 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               음
                                                     2520
                                                                                                  2580
TTGGCGAAAGAICCACGTAITGCCGCCACCAIGGAAAACGCCCAGAAAGGIGAAAICAIG 2520
                                                                                                                                                                                     GCCAGCGGTCGTCAACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640
                                                                                                                                                                                                                                2581 GCCAGCGGTCGTCGATGATGAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640
                                                                                                                                                                                                                                                                           AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2940
                                                                                                                                                                                                                                                                                                                2641 AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700
                                                                                                                                                                                                                                                                                                                                                                                                    2701 GGATCCTCTTCCTCTGTGGCCCAGGGGGCCCTCGAGCCCGGGGAGAAGCCCTATGCTTGT 2760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGTGCGCCATCAACGCACTCATACTCGCGAGAAGCCATACAAATGTCCAGAATGTGGC 2940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2941 AAGTCTTTCAGTGATTGTCGTGATCTTGCGAGGCACCAACGTACTCACACGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCTCTCAGAGCTCTCACCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3001 CCCTATGCTTGTCCGGAATGTGGTAAGTCCTTCAGCCAGAGCAGCTCCCTGGTGCGCCAC 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3061 CAGCGTACCCACACGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGC 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2941 AAGICITICAGCCAGAGCTCCAGCCTGGTGCGCCACCAACGTACTCACACCGGGGAGAAG 3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3121 GAČTGCCGCGACCTTGCTCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT 3180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3181 CCAGAATOTGGCAAGTCTTTCTCCCAATCTCGCCATCTCGGCCACCAACGTACTAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGAATGTGGCCAAGTCTTTCTCAACTTCAGGCCATTTGGTCCGTCACCAACGTACTCAC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                  2521 CCGAACATCCCGCAGAAGTCCCCCTTTTCTGGTATGCCGTGCGTACTGCGGGGGATCAACGC
                                                                                           CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                       GGATCCTCTTCCTCTGTGGCCCAGGCGCCCTCGAGCCCCGGGGAGAAGCCCTATGCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGGAATGIGGIAAGICCITCAGCCAGAGCAGCICCCIGGIGCGCCACCAGCGIACCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCACCAGCGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2821 ACGGGTGAAAAACCGTATAAATGCCCAGAGTGCGGCAAATCTTTTAGCCAGAGCAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3121 CGCAGCGATAACCTGGTGCGCCATCAACGCACTCATACTGGCGAGAAGCCATACAAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3241 ACCGGTAAAAAACTAGTGGCCAGGCCAGTACCCGTACGACTTCCGGACTACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1. Application US/10257384A
Publication No. US20040087524A1
GREEAL INFORMATION:
APPLICANT: Wiederanders, Bernd
APPLICANT: Waubach, Gunter
TITLE OF INVENTION: Agent for postoperative use after removal of bone iplie REPERENCE: 2945-101
CURRENT APPLICATION NUMBER: US/10/257,384A
CURRENT FILING DATE: 2003-08-21
PRIOR FILING DATE: 2001-04-18
PRIOR FILING DATE: 2000-04-18
NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-257-384A-1
                                                                                                                                                                                                                                                                           2641
                                                2461
                                                                                                                                                                                                                                                                                                                                                                          2701
  2461
                                                                                           2521
                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3181
```

ö

120 180 180 240 240 300

9

360 300

360 420 480

TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA 540

TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA

481 481

ò

	2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 2521 CCGAACATCCCGCTATTGCCGCCACTACGGAAAGGTGAAATCATG 2520 2521 CCGAACATCCCGCAATTGCCGCTTTCTGGTATGGTGGCGTACTGGGTGATCAACGCC 2580 2521 CCGAACATCCCGCAATTGCCGCTTTCTGGTATGGTACCGGGGTGATCAACGCC 2580 2581 GCCAGCGGTCGTCGAATTTCCGTTTCTGTATGGTACCGGCGAACTAATTCGAGCTCG 2640 2641 AACAACAACAACAATAAACAATAAACAACAACGGGAAACGCGCAAGATTCAGAATTC 2700 2641 AACAACAACAACAATAACAATAACAACACCGGGATCGAGGGAAGGATTTCAGAATTC 2700 2641 AACAACAACAATAACAATAACAACACCTCGGGATCGAGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTGTGGCCCCAGGCGGCCCGGGATCGAGGAATTCAGAATTC 2700 2701 GGATCCTCTTCTCTCTGTGGCCCCAGGCGCCGGGATCGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTCTCTCTGTGGCCCCAGGCGCTCGGAGCCCGGCAACGAATTC 2700 2701 GGATCCTCTTCTCTCTGTGGCCCCAGGCCCCGGATCGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTCTCTCTGTGGCCCCAGGCGCCCGGATCGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTCTCTCTGTGGCCCAGGCGCCCGGATCGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTCTCTCTGTGCCCCAGGCCCCGGATCGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTGTGCCCCAGGCCGCCCGGATCGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTGTGCCCCAGGCGGCCCTCGAGCCCGGATCGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTGTGCCCCAGGCGGCCCTCGAGCCCGGATCGGGAAGGATTTCAGAATTC 2700 2701 GGATCCTCTTGTGCCCAGCCGCCCCGGATCGGGAACGGAACGGAATTCAGAATTC 2700 2701 GGATCCTCTTTCCTCTTGTGCCCAGGCCCTCGAGCCCGGCTCGAGCCCGGCACCGGAACGCGAACCCGGAATCGAGATTTCAGAATTC 2700 2701 GGATCTCTCTTGTGCCCTCTTGTGCCCTCGTGAGCCCCGCAGCCCGGAACGCGAACCGGAACGCGCCCGGAACCCGGAACGCGAACCCGGAACCCGGAACCCGAACCCGGAACCCGGAACCCGGAACCCGGAACCCGGAACCCGAACCCCGAACCCAGACCCAGACCCAGACCCCGAACCCCGAACCCAGACCCCAGACCCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCAGACCAGACCCAGACCAGACCAGACCAACCAACCCAACCCAACACAACA
1 6 B 6 B 6 B 6 B 6 B 6 B 6 B 6 B 6 B 6	6 8 6 8 6 8 6 8 6 8
CACCCATCAACAGTATTATTTTCTCCCATGAACAGCACTACGCGGCGCGGCGCGCGC	1321

720 720 780 780

900 900 960

유

```
GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1501 GCACTICACCAACAAGGACCATAGAATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT 1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGGT 1620
                                                                                                           CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGGAGCATC 600
           481 TIGCIGIGGAAGCIGCCIGCACIAAIGIICCGGCGIITAITITCITGAIGICICTGACCAGA 540
                                                                                                                                                                                                   ATGAGGGCATCGTTCCCACTGCGATGCTGCCAACGATCAGATGGCGCTGGGCGCAA 840
                                                                                                                                                                                                                                                                        CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                               CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                         CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                CGGAACGGGAAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGAGTGCCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCGCGCCATTACCGAGTCCGGGCTGCGCTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCAAACCGCCTCTCCCCGCGCGCGTTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGGGGCCCAATGCTTCTGGCG
                                                                                                                                                                     TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGGCAATCAGCTGTTGCCCCGTCTCACTGGTGAAAAGAAAAACCCCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1441 ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901 ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081 CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1501 GCACTICACCAACAAGGACCATAGATTATGAAAACTGAAGGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1381 Cridicada Taricricada ricado crigirica cada ricarica de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contra a respector de contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1441 ATTGTGAGCGGATAACAATTTCACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1261
                                                               541
                                                                                                                541
                                                                                                                                                                     601
                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1321
                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1381
                                            ठ
                                                                                                g
                                                                                                                                                               8 6
                                                                                                                                                                                                                                                    6 B 6
                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          윉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                             APPLICANT: GOUSTIANS
APPLICANT: GOUSTIANS
APPLICANT: DUCOMMUN, BERNARD
FOR CANT: DUCOMMUN, BERNARD
FOR CANT: DUCOMMUN, BERNARD
FOR CHARLE
FOR CANTER OF INVENTION: METHOD FOR OBTAINING HUMAN CDC25 PHOSPHATASES AND METHOD
FILE REFERENCE: DMI-427.065
FILE REFERENCE: DMI-427.065
CURRENT APPLICATION NUMBER: US02-06-07
FILE REFERENCE: DMI-427.065
CURRENT FILING DATE: 2002-06-07
FRIOR PILING DATE: 2001-12-13
FRIOR PAPLICATION NUMBER: FR 99/15722
FRIOR FILING DATE: 1999-12-14
FRIOR FILING DATE: 2000-05-30
FRIOR FILING DATE: 2000-05-30
FRIOR FILING DATE: 2000-09-21
NUMBER OF SEQ ID NOS: 14
SEQ ID NO 5
LENGTH: 8101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTGGTGTCGATGGTAGAACGAAGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301 ACGCCCGTCCCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGGGAAAAAGTGGAGGGGGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 17; Length 8101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: JM109 / PMAL - Hs Cdc25C strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2; Indels
2701 GGATCCTCCAGTCCCGGCAAGCCGCCGCGCCTGGTGGGAGG 2741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 99.9%; Score 2705.8; Similarity 99.9%; Pred. No. 0; 07; Conservative 0; Mismatches
                                                                       RESULT 7
US-10-149-472-5
Sequence 5, Application US/10149472
Publication No. US20040029204AI
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Simil
Matches 2707; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-149-472-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
```

음 ઠે

ठ 8 8 요 8 8 g

ò

ò

유

ठ हे ठ

셤 8.

1080 1080

960

1140

8 &

ઇ B ઇ

셤

8 6 8 6 8 6

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGCCCCCTCCCAAATTGTCCCCCCCATTAAATCTCGCCCCCCATCAACTGGCTCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTCGCGCAACGCGTCAGTGGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                        ) OTHER INFORMATION: Description of the artificial sequence: plasmid ; OTHER INFORMATION: pMAL-c2x US-10-343-859-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2701; DB 19; Length 6648; Pred. No. 0; 0; Mismatches 5; Indels 0;
                                                                                                                                                                          mutations
                                                                                                    Sequence 8, Application US/10343859
; Sequence 8, Application US/10343859
; Publication No. US20040110161A1
GENERAL INFORMATION:
; APPLICANT: Nanogen Recognomics GMBH
TITLE OF INVENTION: Method for detecting mut:
; TITLE OF INVENTION: Mucleotide sequences
; FILE REFERENCE: 612,406-033
; CURRENT APPLICATION NUMBER: US/10/343,859
; CURRENT APPLICATION NUMBER: PCT/EP01/08127
; PRIOR FILING DATE: 2003-11-24
; PRIOR FILING DATE: 2000-07-13
; PRIOR FILING DATE: 2000-08-04
; NUMBER OF SEQ ID NOS: 52
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 99.8%;
Matches 2704; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Artificial sequence
FEATURE:
2709
              2701 GGATCCTCT
GGATCCTCT
                                                                           RESULT 8
US-10-343-859-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          음
중
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2640
                                                                                                                                                                                                                                                                 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2580
                                                                                                                                                                                                                                                                                                  1920
                                                                                                                                                                                                                                                                                                                                                                                              2040
                                                                                                                                                                                                                                                                                                                                                                                                                             2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCATGGTCCAACATCGACACCAGCAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGCAACTGGCGTTGGCCTGACATTATCTTCTGGGCACACGACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                   1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACTGGGAA
                                                                                                                                                                                                                                                                                                                                GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                                                  1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATCTCAAC
                                                                                                                                                                                                                                                                                                                                                                                            CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGCTGGCGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAAACACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGGGTCAACCATCCAAACCGTTCGTTGGTGAGCGCAGGTATTAACGCCGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGATGAAGGTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAACATCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCACGCC
                                                                                                                                         GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                          GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                     CGFTTACCTGGGATGCCGTACGTTACAACGCAAGCTGATTGCTTACCCCGATCGCTGTT
                                                                                                                                                                                                                                                                 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCCGCCAAAAACCTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2041 TATGAAAACGCCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                           GCGCCAACTGGCCGTGACATTATCTTCTGGGCACACGACGCTTTGGTGGCTAC
                                                                                                                                                                                                      CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                            1621
                                                                                                                                        1741
                                                                                                                                                                                                                                    1801
                                                                                                                                                                                                                                                                                                                                                                                                                           1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2641
                                                                                                                                                                     1741
                                                                                                                                                                                                    1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2461
                                                                                                                                                                                                                                                                   1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2641
                                                                           1681
                                                                                                                                                                                                                                                                                                                                1921
                                                                                                                                                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2101
```

දු පු

셤

ઠે

8 8 8 8

õ

요

8 8 8

g

<u>ک</u> ۾

<u>ራ</u> 8

셤

ઠે

1681 GCGGCAACTGGCCGTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC 1740 		1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCGGATGGCTGTT 1860 		1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC 1980 	1981 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAAG 2040 	2041 TATGAAAACGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG 2100 	2101 GGTCTGACCTTCCTGGTTGACCTGATTAAAACAACACATGAATGCAGACACCGATTAC 2160 	2161 TCCATGGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG 2220 	2221 GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC 2280 [2281 AAGGTCAACCATCCAAACCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT 2340	2341 CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	2401 GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460 	2461 TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520 	2521 CCGAACATCCGGCAGATGTCCGCTTTCTGGTATGCCGTACTGCGGTGATCAACGC 2580	2581 GCCAGGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640 [AACAACAACA AACAACAACA	2701 GGATCCTCT 2709 2701 GGATCCTCT 2709
& A	& 8 8	Oy Dp	ò a	& g	ò a	දු පු	à à	Oy Op	oy G	Oy Op	λ α	දි දි	& 8 &	& 8	op Op	දු පු	A qq
541 CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 600 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCG 660		721 CGGAACGGGAAGGCGACTGGAGTGCCGATTTTCAACAAACCATGCAAATGCTGA 780 	781 ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATGGCGGTGGGGGCAA 840 	841 TGCGCGCATTACCGAGTCCGGGCTGCGCGTTGCGGATATCTCGGTAGTGGGATACC 900 	ATTTTC ATTTTC	961 GCCTGCTGGGGCAAACCAGCGTGGACGGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020 	1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAAA	1081 CGCAAACCGCCTCTCCCCGCGGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT 1140 1081 CGCAAACCGCCTCTCCCCGCGCGTTGGACATTCATTAATGCAGCTGGCACGACAGGTTT 1140	1141 CCCGACTGGAAAGCGGGCAGTGAGCGCAACTAATGAGTTAGCTCACTCA	CTGGCG 	1261 TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG 1320 	1321 TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT 1380 	1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA 1440 		ATCTGG 1	1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT 1620 	1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT 1680

```
1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1680
                                                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                                                                                                                                                                                                                                                                                                                                                         1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACCGCTTTGGTGGCTAC 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1740
                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                    1020
                                                                                                                                  840
                                                                                                                                                             840
                                                                                                                                                                                         900
                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                              960
                                                                                                                                                                                                                                                                         960
                                                                                          961 GCCTGCTGGGGCGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCAGGCAGCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGGCAACTGGCGATGGCCCTGACATATCTTCTGGGCACACGCACCGCTTTGGTGGCTAC
                                       781 ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGGGCGAA
                                                                                                                                                                                                                                                                                                     GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                           AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                        CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                              CGCAAACCGCCTCTCCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCEGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                    ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                                                                                               ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGTGAGCGGATAACAATTTCACACAGGAAACAGCCAGTCCGTTTAGGTGTTTTCACGA
                                                                               CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1681
                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1501
                                                    661
                                                                                                         721
                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                721
                                                                                                                                     781
                                                                                                                                                                                           841
                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                         상 원
                                                                     8 6
                                                                                                                           ò
                                                                                                                                                       셤
                                                                                                                                                                                         ò
                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG 660
                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                  Description of the artificial sequence: pMALc2x-mutS plasmid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GICAATTCAGGGTGAGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCGAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                           CGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAAGCGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u> 1GGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                             CCGACACCATCGAATGCTGCAAAACCTTTCGCGGTATGGCATGGTAGGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                                                                                                                                                         DB 19; Length 9191;
                                                                                                                                                                                                                                                                                                                                                                                                    5; Indels
                                                                                             mutations in
        US-10-343-859-9

US-10-343-859-9

Sequence 9, Application US/10343859

Publication No. US20040110161A1

GENERAL INFORMATION:
APPLICANT: Nanogen Recognomics GMBH
TITLE OF INVENTION: Method for detecting muta
TITLE OF INVENTION: Molectide sequences
FILE REPERBERGE: 612,406-03

CURRENT APPLICATION NUMBER: US/10/343,859

CURRENT FILING DATE: 2003-11-24

PRIOR FILING DATE: 2001-07-13

PRIOR FILING DATE: 2001-07-13

PRIOR PILING DATE: 2000-08-04

NUMBER OF SEQ ID NOS: 52

SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                        81.8%; Score 2698; D
99.8%; Pred. No. 0;
cive 0; Mismatches
                                                                                                                                                                                                                                                                            TYPE: DNA ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 99.8
Matches 2701; Conservative
                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                               LENGTH: 9191
                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORM
US-10-343-859-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                               Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                        FEATURE:
```

셤

ò

음

ઠે

S C ò g ò 셤 ò 셤 ò g ઠે

ઠે

음 성 음

ያ ያ ઠે

```
GTCAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301 Acececercecanarrerecececearranarerececearcaneresecenese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGCTGTGGAAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTCAATTCAGGGTGGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGTCTCTTATCAGACCGTTTCCCGCGTGGTGAACCAGGCCAGGCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 AACAACTGGGGGGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                          CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                      APPLICANT: Abbott Laboratories
APPLICANT: Abbott Laboratories
APPLICANT: Maine, Gregory T.
APPLICANT: Patel, Chandu B.
APPLICANT: Ginsburg, Sanford R.
APPLICANT: Ginsburg, Sanford R.
TITLE OF INVENTION: GENETICALLY ENGINEBRED P30 ANTIGEN,
TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REFERENCE: 6984 US.0.1
CURRENT APPLICATION NUMBER: US/10/263,153
CURRENT FILING DATE: 2002-10-22
NUMBER OF SEQ ID NOS: 74
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 40
LENOT.: 712
                                                                                                                                                                                                                                                                                                  ; LOCATION: (1528)...(3189)
; OTHER INFORMATION: pMBP-c2X-ToxoP30dell1 (52-214aa)
US-10-263-153-40
                                                                                                                                                                                                                                                                                                                                                              Query Match
81.5%; Score 2690.4;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 2694; Conservative 0; Mismatches
US20040067239A1
                                                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Toxoplasma gondii
                                                                                                                                                                                                                                                                                       NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 %
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                      2040
                                                                                                                                                                                                                                                                                                                2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2400
                                                                                                                            GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCCGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                   2100
                                                                                                                                                                                                                                                                                                                                                                             2160
                                                                                                                                                                                                                                                                                                                                                                                                           2160
                                                                                                                                                                                                                                                                                                                                                                                                                                       2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2460
                               1741 GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAGCGTTCCAGGACAAGCTGTGTAT 1800
                                                                                          1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT 1860
                                                                                                                                                                                                             2460
                                                                                                                                                          GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                   CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT
                                                                                                                                                                                     GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCGTGATGTTCAAC
                                                                                                                                                                                                                                                                                                                               2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGGTTAAACGCTGGCGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                            GOTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACAAGAAGAAGAAGACAGGACACGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGGGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                   CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                                                                                                             2041 TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                         GGTCTGACCTTCCTGGTTGACCTGATTAAAAACAAACACATGAATGCAGACACCGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGAACATCCCGCAGATGTCCCCTTTCTGGTATGCCGTGCGTACTGCGGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2581 GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2641 AACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGATCC 2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGATCC 2706
                                                                                                                                                                                        1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2401
                                                                                                                            1861
                                                                                                                                                                                                                     1921
                                                                                                                                                                                                                                                   1961
                                                                                                                                                                                                                                                                               1981
                                                                                                                                                                                                                                                                                                                                                                                                      2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2341
                                                                   1801
                                                                                                                                                            1961
                                                                                                                                                                                                                                                                                                                                                                        2101
                                                                                                                                                                                                                                                                                                                                                                                                                                    2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2701
                            名
                                                                8 8
                                                                                                                      8 8 8
                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                      음 중
                                                                                                                                                                                                                                                                                                                                  음 장
                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

ö

Gaps

ö

6; Indels

Length 7112;

DB 18;

120

9

180 180 240 240 300 300 360 360 420 420 480 480 540 540 900 900

> , Sequence 40, Application US/10263153 RESULT 10 US-10-263-153-40

661 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG 720

601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG

a

```
1080
                                                                                                                                                                                                                                                                                                                  1140
                                                                                                                                                                         GCCTGCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA 1020
                                                                                                                                                                                         1080
                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                  1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA 1920
               840
                                         840
                                                                  900
                                                                                              900
                                                                                                                         960
                                                                                                                                     TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                            CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                       GCACTTCACCAACAAGGACCATAGATTATGAAAACTGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                   ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                  CGCAAACCGCCTCTCCCCGCGCGTTGGATTCATTAATGCAGCACGACGACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                           1201 GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGGCAGCCATCGGAAGCTGTGGTATGGCTGTGCAGGTCGTAAATCACTGCATAATTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1381 CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1501 GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGGCAACTGGCGATGGCCCTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGTGGCTAC
                                                                                           TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGGATACG
                                                                                                                                                                                                                              1021 AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAACCACCCTGGCGCCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                               GCACAATTCTCATGTTTGACAGCTTATCATCGACTGCACGGTGCACCAATGCTTCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGTGAGCGGATAACAATTTTCACACAGGAAACAGCCAGTCCGGTTTAAGGTGTTTTTCACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAAATTCGAGAAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGCAAATATTCTGAAATGAGCTGTTGACAATTAATCATCGGCTCGTATAATGTGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTCGCTCAAGGCGCACTCCCGTTCTGGATAATGTTTTTTGCGCCGACATCATAACGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1561 ATTAACGCCGATAAAGGCTATAACGGTCTCGCTGAAGTCGGTAAGAATTCGAGAAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAACTGGAAGAGAAATTCCCACAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGGCAACTGGCCGTGACATTATCTTCTGGGCACACGACCGCTTTGGTGGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTCAATCTGGCCTGTTGGCTGAAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTCAATCTGGCCTGTTGGCTGAATCACCCCGGACAAAGCGTTCCAGGACAAGCTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCCGATCGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTTTACCTGGGATGCCGTACGTTACAACGCCAAGCTGATTGCTTACCCGGATCGCTGTT
                                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1441
                                                                                           841
                                                                                                                    901
                                                                                                                                              901
                                                                                                                                                                         961
                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1321
            781
                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1801
                           엄
                                                             강 원
                                                                                                            8 6
                                                                                                                                                                      ò
                                                                                                                                                                                         염장
                                                                                                                                                                                                                                                පු
                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                               8 6 B 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ठ
                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG 120
                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                              121 Grórictitatcadaccerriccedegradadecadecedecedecirrerecedada 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGAACGGGAAGGCCACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA 780
                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                    61 GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                  CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGGCCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGCTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCGTCTGCGTCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                          1 CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGGAAAAAGTGGAGCGGCGATGGCCGGAGCTGAATTACATTCCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 AACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTGGTGTTGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TIGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTCGCATTGGGTCACCAGCAAATCGCGCCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                         7259;
                                                                                                                                                                                                                                                                    ö
TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
CURRENT APPLICATION UNDRER: US/10/263,153
CURRENT FILING DATE: 2002-10-22
SURBENT FILING DATE: 74
SOFFWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 30
LENGTH: 7259
                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                   6; Indels
                                                                                                                                                                             DB 18;
                                                                                                                                                                                                                                      Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                     Query Match
Best Local Similarity 99.8%;
Matches 2694; Conservative (
                                                                                                                          TYPE: DNA ORGANISM: Toxoplasma gondii
                                                                                                                                                     FEATURE:
NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                     -
                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
```

8 8 8

음 승 음

ठे ద

දු පු

ठे g ò 윱 강 쉽

6 6

ઠે 셤 중 음 8 6 à 음

q

ò

ઠે g ઠે 셤

ઠે

ያ ያ

g

셤

ઠે

g

ò

g

ò

요

ઠે

g

ઠે

g

ઠે

셤

ò g

```
ö
                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                     9
                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                 GIGICTCTTATCAGACCGTTCCCGCGTGGAACCAGGCCAGCCACGTTTCTGCGAAAA
                                                                                                                                                                                                                                                                                                                                                                                         GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCGTCTGCGTCTGGCTGGCTGGCAAAAAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGAACGGGAACGCGACTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCCAACGATCAGATGGCGCTGGGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                   CCGACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGA
                                                                                                                                                                                                                               ccaacaccarcaargerecaaaccrrrccccgrarccarcarcaracccccccaaagaga
                                                                                                                                                                                                                                                           GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                                                                                                                                                                                                                                                     CGCGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAA
                                                                                                                                                                          Gaps
                                                                                                                                              DB 18; Length 7322;
                                                                                                                                                                        ö
                                                                                                                                                                        6; Indels
                                                                     NAME/KEY: CDS

CCATION: (1528)...(3399)

OTHER INFORMATION: pMBP-c2X-ToxoP30dell0 (52-284aa)

WS-10-263-153-35
                                                                                                                                           Score 2690.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                           Query Match
Best Local Similarity 99.8%;
Matches 2694; Conservative
SEQ ID NO 35
LENGTH: 7322
TYPE: DNA
ORGANISM: TOXODlasma gondii
FEATURE:
                                                                                                                                                                                                      -
                                                                                                                                                                                                                               -
                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                             염
                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sy do
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                   2040
                                                                                                                                                                                                                                                                                                                                                                                                                     2340
                                                                                                                                                                                                                                                                                                                                                                                                                                               2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2520
                                                                        1980
                                                                                                                                                                                      2100
                                                                                                                                                                                                                  2160
                                                                                                                                                                                                                                              2160
                                                                                                                                                                                                                                                                         2220
                                                                                                                                                                                                                                                                                                                                                             2280
                                                                                                                                                                                                                                                                                                                                                                                         2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2700
GAGATCCCGGCGCTGGATAAAGAACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                                                                                              GAAGCGGTTAATAAGACAAACCGCTGGCTGCCGTAGCGCTGAAGTCTTACGACGAAGAGGGTTTATATAAAGACAGAAGAGGAAGCGCTGAAGCGCTGAAGCGCTGAAGCGCTGAAGCGCTGAAGCGTAATAAAGACAGAAAACGCTGGGGTGCCTAGCGTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521 CCGAACATCCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCCTACTGCGGTGATCACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGATCCCGGCGCGCTGGATAAGGACTGAAAGCGAAAGGTAAGAGCGCGCTGATGTTCAAC
                                                                                                                                                                        TATGAAAACGGCAAGTACGACATTAAAGACGTGGGGCGTGGATAACGCTGGCGCAAAGCG
                                                                                                                                                                                                                                                                                        TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                                                                                                                                                                                                                      AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                     2581 GCCAGCGCTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                 CTGCAAGAACCGTACTTCACCTGGCCGCTGATTGCTGCTGACGGGGGTTATGCGTTCAAG
                                                                                                                                                          TATGAAAACGGCAAGTACGACATTAAAGACGTGGGCGTGGATAACGCTGGCGCGAAAGCG
                                                                                                                                                                                                                TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 35, Application US/10263153

Sequence 35, Application US/10263153

Publication No. US20040067239A1

GENERAL INFORMATION:

APPLICANT: Abbott Laboratories

APPLICANT: Maine, Gregory T.

APPLICANT: Patel, Chandu B.

APPLICANT: Ginaburg, Sanford R.

APPLICANT: Bliese, Timothy R.

TITLE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,

TITLE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF;

FILE REFERENCE: 6984.US.O1

CURRENT APPLICATION NUMBER: US/10/263,153

CURRENT FILING DATE: 2002-10-22

NUMBER OF SEQ ID NOS: 74

SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 12
US-10-263-153-35
                                                                                                                                                                                                                                                                                                                                                          2221
                                                                                                                                                                                                                                                                                                                                                                                      2281
                                                                                                                                                                                                                                                                                                                                                                                                                   2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2641
                                                                     1921
                                                                                                                            1981
                                                                                                                                                        2041
                                                                                                                                                                                    2041
                                                                                                                                                                                                                2101
                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                                                                                   2161
                                                                                                                                                                                                                                                                                                                                2221
                                                                                                                                                                                                                                                                                                                                                                                                                                               2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2641
                                                                                                 1981
                                                                                                                                                                                                                                             2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2521
                                          1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2461
                1861
```

Db 961 GCCTGCTGGGGCGAACCGGCTTGCTGCAACTCTCTCAGGGCCAGGCGTGA 1021 AGGGCAATCAGCTGTCTCTCAGGGCCGCTGTGA 1021 AGGGCAATCAGCTGTCTCTCAGGTGCCCAATA 1021 AGGGCAATCAGCTGTTGCCGTCTCCCGGCGCCCAATA 1021 AGGGCAATCAGCTGTTGCCGTTCACTGGTGAAAAGAAAA	1201 1201 1261	0.5	Db 1441 ATTGTGAGCGGATAACAATTTCACGGGAAACGCCCAGTCCGTTTTAGGTGTTTTCACGG Qy 1501 GCACTTCACCAACAAGGACCATAGGATATGAAAACTGAAGAAGGTAAACTGGTAATCTGG Db 1501 GCACTTCACCAACAAGGACCATAGCATATGAAAATCGAAGAAGGTAAACTGGTAATCTGG	Qy 1561 ATTAACGGCGATAAAGGCTATAACGGTCCGCTGAAGTCGGTAAGAAATTCGAGAAAGAT Db 1561 ATTAACGGCGATAAAGGCTATAACGGTCTCGCTGAAGTAAGAAATTCGAGAAAGAT Qy 1621 ACCGGAATTAAAGTCACCGTTGAGCATCCGGATAAAGAAGAATTCCCACAGGTT Db 1621 ACCGGAATTAAAAGTCACCGTTGAGCATCCGGATAAAACTGGAAAGAAA	1681 1681 1741 1741	Qy 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCCGATCGCTGTT Db 1801 CCGTTTACCTGGGATGCCGTACGTTACAACGGCAAGCTGATTGCTTACCCGATCGCTGTT Qy 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAACCTGGGAA Db 1861 GAAGCGTTATCGCTGATTTATAACAAAGATCTGCTGCCGAACCCGCCAAAAAACCTGGGAA	Oy 1921 GAGATCCCGGCGCTGGATAAAGAACTGAAAGGTAAGAGGCGCGCTGATGTTCAAC
SRMATION: pMBP-c2X-ToxoP30del4C (52-294aa)	OF CONTROL OF CONTRO	Oy 241 AACAACTGGCGGCAAACAGTGCTGGTTGGCGTTGCCACCTCCAGTCTGGCCCTGC 300 241 AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGC 300 241 AACAACTGGCGGCGAAACAGTCGTTGCTGATTGGCGTTGCCAGTCTGGCCCTGC 300 QY 301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 Db 301 ACGCGCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360 OX 361 TGGTGGTGCTCGAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG 360		481 TTGCTGTGGAAGCTGCCTGACTAATGTTCCTGGGGTTATTCTTGATGTCTCTGACGAAAAAAAA	541 CACCCATCAACAGTATTATTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATC 601 TGGTCGCATTGGGTCACCACAAATCGCGCTGTTAAGGCCCCATTAAGTTCTGTCTCGG 601 TGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGGGCGCCCATTAAGTTCTGTCTCGG 661 CGCGTCTGGGTCACCAGCAAATCGCGCTGTTAGGGGGCCCATTAAGTTCTGTCTCGG 661 CGCGTCTGGGTCTGGCTGGCATAAATTCTCACTCGCAATCAAATTCTGTCTCGG	721 CGGAACGGGAAGGCGACTGGCCATGTCCGCTTTTCAACAACAGAATCAACTGATAGATTCAACTGATAGAATTCAACTGAAATGCTGAAACGAAAGCGAAAGGCGAACGGAAGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAACGGGAAGGGCGAACGGGAAGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAATGCTGAAATGCTGAAATGCTGAAATGCTGAAATGCTGAAAAAAAA	DB 781 ATGAGGCATCGTTCCACTGCGATGCTGGCTGCGATCAGATGGCGCTGGGCGCA 840

180

300 300 360 420 420 480 480 540 540 900 900

us-09-765-555b-17.rnpb

```
GTCAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCG
                                                                                 CGCGGGAAAAAGTGGAAAGCGGCGATGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                            CGCGGGAAAAAGTGGAAGCGCGATGGCGAGCTGAATTACATTCCCAACCGCGTGGCAC
                                                                                                                                                                                    ACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCG
                                                                                                                                                                                                                             TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                      AACAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCTTGC
                                                                                                                                                                                                                                                            TGGTGGTGTTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATC
                                                                                                                                                                                                                                                                                                                                                TIGCTGTGGAAGCTGCCTGCACAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGA
                                                                                                                                                                                                                                                                                                                                                                                          CACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACCTGGGCGTGGACCATC
                                                                                                                                                                                                                                                                                                                                                                                                       TTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCA
                                                                                                                                                                                                                                                                                                                                                              TGGTCGCATTGGGTCACCAGCAAATCGCGGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCGTCTGCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATCAAATTCAGCCGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGAACGGGAAGGCGACTGGGCGATGTCCGGTTTTCAACAAACCATGCAAATGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGAGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGATGGCGCTGGGGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCCATTACCGAGTCCGGGCTGCGCGTGCGGATATCTCCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841 TGCGCGCATTACCGAGTCCGGGCTGCGCTTGCTGCGGATATCTCGGTAGTGGGATACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCCATCAAACAGGATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAAAACCACCCTGGCGCCCAATA
                 ч
                                        61
                                                                                                                                                 181
                                                            61
                                                                                  121
                                                                                                                             181
                                                                                                                                                                       241
                                                                                                                                                                                            241
                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                    8
                                                       임
                                                                         9
P
                                                                                                                       B 农 B 农 B 农 B 农 B 农
                                                                                                                                                                                                                                                                                                                                          8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ठे
     2160
                                                                                          2280
                                                                                                                2280
                                                                                                                                     2340
                                                                                                                                                           2340
                                                                                                                                                                                2400
                                                                                                                                                                                                     2400
                                                                                                                                                                                                                          2460
                                                                                                                                                                                                                                              2460
                                                                                                                                                                                                                                                                                                               2580
                                                                                                                                                                                                                                                                                                                                                         2640
                                                                                                                                                                                                                                                                TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520
                                                                                                                                                                                                                                                                                         2520
                                                                                                                                                                                                                                                                                                                                    2580
                                                                                                                                                                                                                                                                                                                                                                               2640
                                                                                                                                                                                                                                                                                                                                                                                                            ö
                GCATGGTCCAACATCGACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTC
                                                                                                                                                                                        GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                    GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG
                                                                                                                                                                                                                                                                                TIGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAAGGCCCAGAAAGGTGAAATGATG
                                          TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGG
                                                              2161 TCCATCGCAGAAGCTGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACAGGCCCGTGG
                                                                                                  AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGTATTAACGCCGCAGT
                                                                                                                                                    AAGGGTCAACCATCCAAACCGTTCGTTGGCGTGCTGAGCGCAGGTATTAACGCCGCAGT
                                                                                                                                                                         CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTAATGCGGTGATCAACGCC
                                                                                                                                                                                                                                                                                                                                                                  2521 CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCACGCC
                                                                                                                                                                                                                                                                                                                                                   GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG
                                                                                                                                                                                                                                                                                                                                                                                               AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGAAGGATTTCAGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 20, Application US/10263153
Publication No. US20040067239A1
GENERAL INFORMATION:
APPLICANT: Abbott Laboratories
APPLICANT: Maine, Gregory T.
APPLICANT: Batel, Chandu B.
APPLICANT: Bites, Timothy R.
ITILE OF INVENTION: GENETICALLY ENGINEERED P30 ANTIGEN,
ITILE OF INVENTION: IMPROVED ANTIGEN COCKTAIL, AND USES THEREOF
FILE REFERENCE: 6984.US.01
CURRENT APPLICATION NUMBER: US/10/263,153
CURRENT APPLICATION NUMBER: 2002-10-22
NUMBER OF SEQ ID NOS: 74
SOFTWARE: FREESEQ for Windows Version 4.0
SEQ ID NO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 7370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PEATURE:
NAME/KEY: CDS
LOCATION: (1528) ... (3447)
OTHER INFORMATION: pMBP-C2X-Toxo30de13C (52-300aa)
US-10-263-153-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81.5%; Score 2690.4;
99.8%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 99.8
Matches 2694, Conservative
                                          2161
                                                                                      2221
                                                                                                          2221
                                                                                                                                2281
                                                                                                                                                      2281
                                                                                                                                                                           2341
                                                                                                                                                                                               2341
                                                                                                                                                                                                                                          2401
                                                                                                                                                                                                                                                                                    2461
                                                                                                                                                                                                                                                                                                                                                     2581
                                                                                                                                                                                                                                                                                                                                                                                              2641
                                                                                                                                                                                                                                                                                                                                                                                                                   2641
 2101
                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                              2461
                                                                                                                                                                                                                                                                                                          2521
                                                                                                                                                                                                                                                                                                                                                                          2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
ઠ
              g
                                       र्व क्षे
                                                                                                  8 8
                                                                                                                                              ଶ ጵ
                                                                                                                                                                                        a
                                                                                                                                                                                                              ठे वि ठे
                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                     के वि के
                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                              g
```

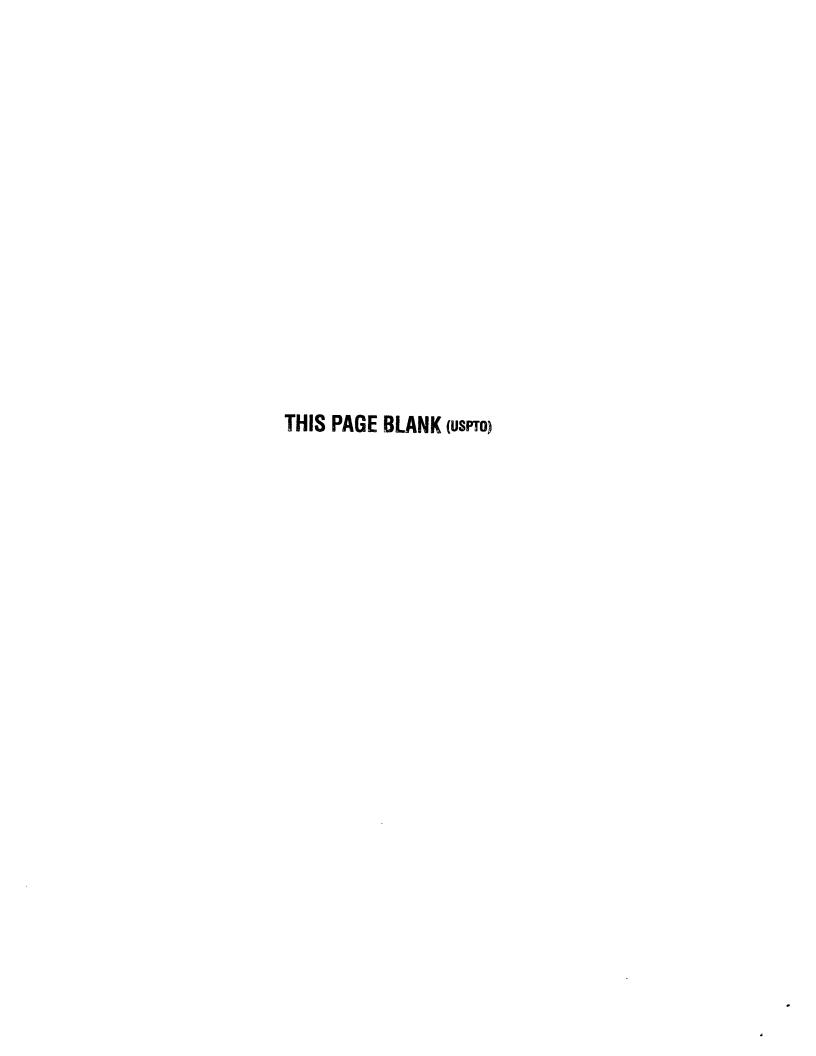
999 99 720 720 780 780 840 840 900 1020

960 900

1020

	CCGAACAAAGAGCTGGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGA	GAAGGGTTAATAAAGACAAACGGTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	GAAGCGGTTAATAAAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAG 2460	TTGGCGAAAGATCCACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	TIGGCGAAAGATCCACGTATTGCCGCCACTATGGAAAACGCCCAGAAAGGTGAAATCATG 2520	CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	CCGAACATCCCGCAGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCC 2580	GCCAGCGGTCGTCAGACTGTCGATGAAGCCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	GCCAGCGGTCGTCAGACTGTCGATGAAGACCCTGAAAGACGCGCAGACTAATTCGAGCTCG 2640	AACAACAACAACAATAACAATAACAACAACCTCGGGATCGAGGGGAAGGATTTCAGAATTC 2700	AACAACAACAATAACAATAACAATAACAACATCGGGATCGAGGAATTTCAGAATTC 2700	
 2281 AAG	2341 CCG	2401 GAA	2401 GAA	2461 TTG	2461 TTG	2521 CCG	2521 CCG	2581 GCC	2581 GCC	2641 AAC	2641 AAC	
c qa	DP 7	δ	Dp 5	ò	Db 2	6	Dp 5	ò	Dp 5	ò	op 7	

Search completed: August 3, 2005, 04:22:07 Job time : 1316.2 secs



```
Wed Aug
```

```
BQ751936 EST632499
CK334523 hggadad4D0
CK118014 218n06.pl
BQ751655 EST632218
BQ751220 EST631783
CB863541 HH04A08Y
AL038548 DKFZp566E
AY080106 AY080106
AL03483 DKFZp54341
BJ063872 BJ063872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HH07B20y
DKFZp434B
PRI0124a
AY080094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DKFZP434A
PRI0130b
DKFZP434L
DKFZP434B
DKFZP5641
B0195F10-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DKFZp564C
AV594538
DKFZp434C
hggada1B1
                                                                                                                                                                                                                                                                                         2, 2005, 10:29:49 ; Search time 6743.2 Seconds (without alignments) 18627.964 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 cogacaccatcgaatggtgc.....acgacgttccggactacgct 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CK394523 | CK118014 ; CK118014 ; CK118014 ; CK118014 ; CK118014 ; CK1180106 | CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK1180106 ; CK180106                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         68479088
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  34239544 seqs, 19032134700 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                  - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALO38548
AY080106
AY080106
BJO643873
CBB63814
ALO45353
AY080094
AY080094
AY080094
AY080094
AY080094
AY080094
AY080094
AY080094
AY080094
AY080094
AY080094
AY080094
AY080094
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY08004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY08004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY080004
AY08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-765-555B-17
3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gb est1:,
gb_est2:,
gb_est3:,
gb_est4:,
gb_est6:,
gb_gss1:,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      660
641
624
752
752
752
608
589
782
774
                                                                                                                                                                                                                                                                                                   August
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    770.6
768
755.4
684.8
676.4
676.4
647.4
641.5
641.5
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
613.8
61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         563.2
562.6
549.4
546.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Minimum DB E
Maximum DB E
                                                                                                                                                                                                  OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database
                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Result
```

CK394349 hggada2D0 AL039077 DKFZpS66G CB68C524 HH04B08u AL048427 DKFZp586H AL042909 DKFZp586H CA891974 K0994C10- AL038811 DKFZp56GC CA890032 B0156F05- CB68C2099 HH06A02y CA8860B2 B0124F04- AL044407 DKFZp56G6 AL039076 DKFZp56GG AL039076 DKFZp56GG AL039076 DKFZp56GG AL039076 DKFZp56GG AL039076 DKFZp56GG AL039076 DKFZp56GG AL039076 DKFZp56GG AL039079 DKFZp434D CR887SB3 B0137H04- AL039589 DKFZp434G CA887SB3 B0137H04- AL039589 DKFZp434G	ALIGNMENTS BO751936 BETG22499 DSCT Colletotrichum trifolii cDNA clone pDSCT8-67, mRNA sequence. BG751936 BC701ecotrichum trifolii BC701ecotrichum trifolii BC701ecotrichum trifolii BC701ecotrichum trifolii BC701ecotrichum trifolii BC701ecotrichum trifolii BC701ecotrichum trifolii BC701ecotrichum trifolii BC701ecotrichum trifolii BC701ecotrichum trifolii BC701ecotrichum trifolii COLIECOTRICHUM. COLIECOTRICHUM. COLIECOTRICHUM. UDDUDLIABAGA CA. GC701ecotrichum trifolii race 1 UDDUDLIABAGA CA. UDDUDLIABAGA CA. COLIECOTRICHUM trifolii race 1 UDDUDLIABAGA CA. CC701ecotrichum trifolii. FXX: 651 649 5056 BC701111 FXX: 651 649 5056 BC701111 ADDUTATION QUANIFIETE COTGANIGNES-"COLIECOTRICHUM trifolii." ADDUTATION CALE "ACA CA. ACC ACT ACA ACA CA. (CC ACT ACA BGG) CC ACT ACT BGGO CO. CC ACT BCT BCT BCT BCT BCT BCT BCT BCT BCT B	
CK394349 AL039077 CB862524 AL048427 AL048427 AL04891974 AL0486082 CA8862099 CA8862099 CA8862099 CA8862099 CA8964087 CA8964397 CA8964397 CA89634397 CC8862715 CC8862715 CC8862715 CC8862715 CC8862715 CC8862715 CC8862715 CC8862715 CC8862715	ALIGNMENTS ALIGNMENTS DSCT COLLECTRICHUM trifolii chum trifolii chum trifolii chum trifolii chum trifolii chum trifolii chum trifolii chum trifolii chum trifolii chum trifolii chum trifolii chum trifolii chum trifolii cetes incertae sedis, Phyllaci lto 794) mycelia of Colletotrichum trii d (2002) d (2002) sebrate A. Samac of Plant Pathology cof Plant Pathology cof Plant Pathology of Minnesota g Hall, 1991 Upper Buford Cir. (25 124) d Sosa bysepuccini.crl.umn.edu nnce amme: MTSAH67TV More info go.org :: (qtA Ach CgA Ct Act A gg cornicaniem="Colletotrichum trif" mole "pee" mRNA" strain="race l" db_xref="taxon:5466" clone="poscre" clone="moscre" 616116116116116116116116	1) let April 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
648 6444 7344 7344 736 736 736 736 736 736 736 736 736 736	DSCT Colle ichum trifo ichum	
2.4.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.	BQ751936 BST632499 BSQ18016-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-	
46.0 46.0 46.0 46.0 46.0 46.0 46.0 46.0	Several Para Para Para Para Para Para Para P	
5 4 4 4 4 4 5 5 5 5 6 5 6 6 6 6 6 6 6 6	RESULT 1 LOCUS LOCUS LOCUS LOCUS LOCUS RECESION VERSION VERSION VERSION VERSION VERSION TITLE JOURNAL COMMENT FEATURES SOURCE SOURCE SOURCE FEATURES	
00000000000000000044444 00000000000000	RESULT SOUTS SOUTS SOUTS SOUTS SOUTS SOUTS SOURCE SOURCE SOURCE TITLE TITLE TOWN COMMENT SOURCE SOUTS	
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	RESULT 1 LOCUS LOCUS LOCUS LOCUS LOCUS LOCUS REFINITION VERSION VERSION VERSION KEYWORDS SOURCE AUTHORS TITLE JOURNAL COMMENT REATURES FEATURES	

mRNA sequence

```
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                            REFERENCE
AUTHORS
                                                                                                                          TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
E. colf Y1090 and phage DNA was purified from a liquid lysate. The cDNA inserts were gel purified after EcoRI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DH5alpha which were plated onto medium with X-gal for selection of recombinants."
                                                                                                                                                                                122
                                                                                                                                                                                         CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTGCGCAGAGTATGCCGGGT 120
                                                                                                                                                                                                                            182
                                                                                                                                                                                                                                     CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA 242
                                                                                                                                                                                                                                                                                                                                                           362
                                                                                                                                                                                                                                                                                                                                                                                                                                                482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           542
                                                                                                                                                                                                                                                                                CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGGCACT
                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                     422
                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                     62
                                                                                                                                                         9
                                                                                                                                                        GACACTTTCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCCGGAAGAGAGT
                                                                                                                                                                                                                        GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                              CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                 CAACTGGCGGCGAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTTGCAC
                                                                                                                                                                                                                                                                                                                                                       GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                          481 GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCATCAACAGTATTATTATCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541 CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGTCTGCGTCTGGCTGGCTGGCATAATATCTCACTCGCAATCAAATTCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGTCTGCGTCTGGCTGGGCGGCATAATATCTCACTCGCAATCAAATTCAGCCGGTAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAACGGGGAAGCGACTGCAGGTTTCCAACAAACCATGCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                   GTGGTGTTGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGGGGACAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAACGGGAAGGCGACTGGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                               Gaps
                                                                                                               ;
                                                                                         Length 794;
                                                                                                               10; Indels
                                                                                       Score 778; DB 5;
Pred. No. 6e-218;
0; Mismatches 10;
                                                                                        23.6%;
98.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGGCATCGTTCC 794
                                                                                                            Matches 784; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGGCATCGTTCC
                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                  n
                                                                                                                                                                                                                        123
                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                              63
                                                                                                                                                                                                  61
                                                                                        Query Match
                                                                                                                                                                                                                                                                   183
                                                                                                                                                                                                                                                                                                            243
                                                                                                                                                                                                                                                                                                                                                       303
                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                  363
                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                            423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                 Local
                                                                 ORIGIN
                                                                                                                                                    g
                                                                                                                                                                                           요
                                                                                                                                                                                                                                        임
                                                                                                                                                                          δ
                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ર્જ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           용
```

mRNA linear EST 30-DEC-2003 cDNA Library Heterodera glycines

CK394523 779 bp hggada4D08 Gland Cell Amplified

RESULT 2 CK394523/c LOCUS DEFINITION

```
Heterodera glycines

Heterodera glycines

Heterodera glycines

Eukaryota; Merazoa; Nematoda; Chromadorea; Tylenchida; Tylenchida;

Tylenchoidea; Heteroderidae; Heteroderinae; Heterodera.

Tylenchoidea; Heteroderidae; Heteroderinae; Heterodera.

St (bases 1 to 779)

RS Wangy,X., Allen,R., Gao,B., Goellner,M., Maier,T., Baum,T.,

Hussey,R. and Davis,E.

Submission: Wang, Allen, Gao, Goellner, Maier, Baum, Hussey, Davis

Ontact: Tom Manier

Department of Plant Pathology, Baum Lab

Iowa State University

351 Bessey Hall, Ames, IA 50011, USA

Tel: 515-294-9420

Email: trmaier@iastate.edu

Heterodera glycines Gland Cell Amplified cDNA Library, single pass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTTCCGGCGTTATTTCTTGATGTCTCTGACCAGCACCCCATCAACAGTATTATTTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147 GIGGIGAACCAGGCCAGGTITCTGCGAAAACGCGGGAAAAAGTGGAAGCGGCGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTTATCAGACCGTTTCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ccagraacerraracearercecaeaerarecceerercrirarcaeaeerrrcocce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ctdarragecarraceaecreeagrerageceraceaecaecaeaaarrareaeaeca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCCCGTCGCAAATTGTCGCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    327 ATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTAGAACGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               539 ATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTGGTGGTGGTAGAACGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCGTCGAAGCCGTGTGAAAGCGGCGGCGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              479 GGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCCAACGGGTCAGTGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GITCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATGAAGACGCTACGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gape
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        / 779
/organism="Meterodera glycines"
/organism="MRNA"
/db xref="taxon:51029"
/cell_type="gland"
/dev_stage="mixed parasitic juvenile"
/clone_lib="Gland Cell Amplified cDNA Library"
/note="Organ: gland cell; Vector: pSportII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 779;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 770.6; DB 7;
Pred. No. 9.3e-216;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
CK394523
CK394523.1 GI:40389794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 23.4%;
Best Local Similarity 99.4%;
Matches 773; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

m

```
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BQ751655
BQ751655.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence.
768;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1105
                                       385
                                                                                                                                                                                                                                                                    265
                                                                                                                                                                                                                                                                                                                                                                                                                         685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                           505
                                                                                                                                                                                                                                                                                                                                              625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 4
BQ751655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Сp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                           ò
                                                                                                                                             요
                                                                                                                                                                                       8
                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                              ⋧
                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /Lissue_Type="inflorescence meristem"
/(issue_Type="inflorescence meristem"
/(dev_stage="about one week after bolting"
/(dev_stage="about one week after bolting"
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
/(done_lib="AtM")
//done_lib="AtM")
                                                                                                                                                                                                                                                                                                                                               218n06.pl AtMl Arabidopsis thaliana cDNA clone MPMGp2011N06218
5-PRIME, mRNA sequence.
CK118014
                                                                           746
                                                                                               179 AAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGAAGGTGCC 120
                                                                                                                                                     ATGTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATG 806
 989
                                   CTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCCCATTACCGAGTCCGGGC 864
                                                                                                                                                                                                                                                                  R
                                                                           AAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCC
                                                                                                                                                                                                                                                  CTGGTTGCCAACGATCAGATGGCGCTGGGGCGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23.3%; Score 768; DB 7; Length 769; 100.0%; Pred. No. 5.4e-215;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Arabidopsis thaliana"
/mol_type="mRNA"
/mol_cofype="columbia"
/db_xref="GABI:956015"
/db_xref="taxon:3702"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         clone="MPMGp2011N06218"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in context or GAB1-un
https://gabi.rzpd.de"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                         CK118014.1 GI:47828330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. .769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST
                                                                                                                                                   747
                                                                                                                                                                                                                            807
                                                                         687
                                                                                                                                                                                                                                                                  59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                          RESULT 3
CK118014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                             8
                                                             ò
                                                                                                 g
                                                                                                                                               ઠે
                                                                                                                                                                           ద
                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                        셤
ઠે
```

```
1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BQ751655 Tolletotrichum trifolii cDNA clone pDSCT6-59, mRNA SST632218 DSCT Colletotrichum trifolii cDNA clone pDSCT6-59, mRNA
ö
                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99
                                                                                                                                                                                                                                    564
                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                           624
                                                                                                                                                                                                                                                                                                                                                                                                                     684
                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Collectrichum trifolii
Collectrichum trifolii
Collectrichum trifolii
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes incertae sedis; Phyllachorales; Phyllachoraceae;
mitosporic Phyllachoraceae; Colletotrichum.
1 (bases 1 to 793)
Samac, D. A., Dickman, M., Town, C.D., Van Aken, S., Utterback, T., Cheung, F. and Fraser, C.M.
ESTS from mycelia of Colletotrichum trifolii race 1
Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                301 ATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCGCTTGCTGCAACTCTCTCAGGCCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACTGGTGAAAAGAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541 ATATCCCGCCGTTAACCACCATCAAACAGGATTTTTGCCTGCTGGGGCAAACCAGCGTGG
                                                GCGCCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                        GCGGCGTCGAAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGC
                                                                                                                                                                                                                                                                             121 ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTTTTCT
                                                                                                                                                                                                                                                                                                                           CCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                                                                                                                                                                                                                                                          181 CCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                        ATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCATGTCCGGTTTTCAACAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    865 TGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              925 ATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601 Accectriccracterereagesceaesceargaagescaareagererreceserer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661 CACTGGTGAAAAGAAAACCACCTGGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGT
                                                                                                                                                                                                                                 ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTCT
Gaps
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAA
Indels
..
0
Mismatches
;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GI:21907060
```

602

662

720 782

```
Colletotrichum trifolii

Colletotrichum trifolii

Edwaryota; Pungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes in Ascomycota; Phyllachorales;
Sordariomycetes; Phyllachoraceae;
Sordariomycetes; Phyllachoraceae;
I (bases I to 806)

E (bases I to 806)

Cheung, F. and Fraser, C.M.

ETST from mycelia of Colletotrichum trifolii race I

Unpublished (2002)

Contact: Deborah A. Samac

Department of Plant Pathology
University of Minnesota

PST ST (ST Manesota

University of Minnesota

PST ST (ST 625 1243)

Fax: 651 649 5058

Fax: 1 Abbrown.cir. 201 una 641.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BQ751220
806 bp mRNA linear EST 18-JUL-2002
EST631783 DSCT Colletotrichum trifolii cDNA clone pDSCT3-64, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="mycelia"
/dev_stage="Young, actively growing mycelia (3 days after
inoculation) grown in liquid culture (cutin minimal medium
containing 2%glucose)."
                                                                                                                                   CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGGCGTGGAGCATCTG 600
                                                                                                                                                                                                                                 CGTCTGCGTCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCCGATAGCG 722
                                                                                                                                                                                                                                                                                                                                                                                                                   /note=Tvector: pBluescript SK+; Site 1: EcoNI; Site 2: EcoNI; isolate: 2sp2; cDNA was prepared from polyA+ enriched RNA The cDNA was ligated into Lambda gill from Stratagene and packaged using Gigapack packaging extracts. An aliquot of the amplified library was used to transduce E. coli Y1090 and phage DNA was purified from a liquid
                                       GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: debbys@puccini.crl.umn.edu
TIGR sequence name: MTSAC64TV More information is available at:
www.medicago.org
Seq primer: (gtA AtA CGA CtC ACt AtA ggg C).
                                                                                                       CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                   GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                    CGTCTGCGTCTGGCTGGCTGCATAAATATCTCACTCGCAATCAAATTCAGCCGGTAGCG
                                                                                                                                                                                                                                                                                                                                                                                     GAACGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
              GCTGTGGAAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1. 806 | Colletotrichum trifolii | // organism="Colletotrichum trifolii" | // organism=race | // strain=race | // db_xref="taxon:5466" | // clone="pbSCT3-64" |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /lab_host="DH5alpha"
/clone_lib="DSCT"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BQ751220.1 GI:21906625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAGG 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGG
                                                                                                       543
                                                                                                                                                       541
                                                        481
                                                                                                                                                                                                      603
                                                                                                                                                                                                                                                                                               663
                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                          723
                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BQ751220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                     δ
                                                                                                                                             셤
                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                   /tissue_type="mycelia"
/dev stage="mycelia"
/develiation | grown in liquid culture (cutin minimal medium containing 2 $glucose)."
/develiation | lib="ubgalpha"
/done lib="bggr"
/doce="wedrer: pBluescript SK+; Site_1: EcoRI; Site_2:
/doce="wedrer: pBluescript SK+; Site_1: EcoRI; Site_2:
/doce="wedrer: pBluescript SK+; Site_1: EcoRI; Site_2:
/doce="wedrer: pBluescript SK+; Site_1: from polyatentied Row as liquot of the amplified library was used to transduce
E. coll Y109 and phage DNA was purified from a liquid lysate. The cDNA inserts were gel purified after EcoRI
digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DH5alpha which were plated onto medium with X-gal for selection of
                                                                                                   Paul, MN 55108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GICTCTTATCAGACCGTTTCCCGCGTGAACCAGGCCAGCCACGTTTCTGCGAAAACG 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGCTGCACATCTT 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCGCGCAACGCGTCAGTGATCATTAACTATCGGTGGATGACCAGGATGCCATT 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACATCTTCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CAATTCAGGGTGGTGAATGTGAAACCAGTAAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              183 CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 GTGGTGTCGATGGTAGAACGAACGACGTCGAAGCCTGTAAAGCGGGGGGGCGATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
              Contact: Deborah A. Samac
Department of Plant Pathology
University of Minnesota
495 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 551
Tel: 612 625 1243
Fax: 651 649 5058
Email: debbys@puccini.crl.umn.edu
TIGR sequence name: MTSAF59TV More information is available
www.medicago.org
Seq primer: (gtA AtA CgA CtC AtA ggg C).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ,
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 793;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23.1%; Score 762; DB 5; Length 79 99.1%; Pred. No. 3.3e-213; Ative 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                             1. 793
/organism="Colletotrichum trifolii"
/mol_type="mRNA"
/strain="race 1"
                                                                                                                                                                                                                                                                                                                                                                              db_xref="taxon:5466"
clone="pDSCT6-59"
  Other_ESTs: EST632217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 99.1
Matches 777; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ო
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                            FEATURES
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DRIGIN
```

ઠે 원 ठ 요 ò 셤 ò 셤 à 요 ઠે ద 8 8

ò

USA

```
, 699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                        source
 ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
                                                                                                                             TITLE
JOURNAL
                                                                                                       AUTHORS
                                                                                             REFERENCE
                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  දු පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
lysate. The cDNA inserts were gel purified after EcoRI digestion and ligated into pBluescript SK+. Aliquots of the ligation were used to transform E. coli DH5alpha which were plated onto medium with X-gal for selection of recombinants."
                                                                                                                                                                            122
                                                                                                                                                                                                    120
                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                          242
                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                        362
                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                      422
                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   777
                                                                                                                                                     9
                                                                                                                                62
                                                                                                                                                                                                                                                                                       CAACTGGCGGCCAAACGTCGTTGCTGATTGCCGTTGCCACCTCCCAGTCTGGCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTCGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCACAAA---CATGCAATGCTGAAT
                                                                                                                                            GACACTTTGGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGGT
                                                                                                                                                                              CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                          CAATTCAGGGTGGTGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGT
                                                                                                                                                                                                                           GICTETATCAGACGITTCCCGCGTGGTGAACCAGGCCACGTTTCTGCGAAAACG
                                                                                                                                                                                                                                                                          CGGGAAAAAGTGGAAGCGGCGATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                        CAACTGGCGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                        GCGCCGTCGCAAATTGTCGCGCCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                      GGGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                   GTGGTGTCGATGGTAGAACGAAGCGGCGTCGAAAGCCTGTAAAGCGGCCGTGCAAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGGGCCCATTAAGTTCTGTCTCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGTCTGCGTCTGGCTGGCTAAATATCTCACTCGCAATCAAATTCAGCGGATAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAACCATGCAAATGCTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                            CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                               GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                          Gaps
                                                                                                       5,
                                                                                 Length 806;
                                                                                                        16; Indels
                                                                                  .,
2
                                                                                22.9%; Score 755.4; DB 5; ilarity 97.4%; Pred. No. 2.9e-211; Conservative 0; Mismatches 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGGGCATCGTTCCCACTGCGATGCTTG 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGG--CATCGTTCCACTGCGATGCTGGTTG
                                                                                             Similarity
                                                                                                       790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         783
                                                                                                                                                                            63
                                                                                                                                                                                                                                                                                                                       243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            723
                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                         183
                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                       303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             663
                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                      363
                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 483
                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 6
CB863541/c
LOCUS
DEFINITION
                                                                                                       Matches
                                                                                  Query
                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                           ઠે
                                                                                                                                                                                              g
                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                      ઠે
```

CB863541 689 bp mRNA linear EST 22-APR-2003 HH04A08y HH Hordeum vulgare CDNA clone HH04A08 3-PRIME, mRNA sequence.

```
;
0
                                                                                    Hordeum vulgare
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta: Magnoliophyta, Liliopsida; Poales; Poaceae;
Pooideae, Triticae, Hordeum.
1 (baees 1 to 689)
Varshney, R.K., Zhang, H., Burton, R., Stein, N., Langridge, P. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /notes="Vector: psport; Site_1: SalI (5-end of cDNA);
Site_2: NotI (3-end of cDNA); Due to the cloning system
used blue/white selection for recombinants is not 100 feliable. Average insert size is 1.3 kb."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCCGGTGTCTTTATCAGACCGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         449 rcgrrdcrgarrggcgrrgccaccrccagrcrggcccrgcacgcgcgrcgcaaarrgrc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGATGGCGGAGCTGAATTACATTCCCAACGGCGTGGCACAACAACTGGCGGGCAAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gegariegegegegergaarracarreceaacegegreecacaacaacregegegegeaacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         389 GCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               329 CGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATCTTCTCGCGCAACGGTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGTCAATTCAGGGTGGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTGAAACCAGTAACGTTATACGATGTCGCAGAGTATGCCCGTGTCTCTTATCAGACCGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCCGCGTGGTGAACCAGGCCAGCCACGTTTCTGCGAAAAACGCGGGAAAAAGTGGAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGGCGATTAAATCTCGCGCCGATCACTGGGTGCCAGCGTGGTGGTGGTAGAAA
                                                                                                                                                                                                                                                                                                        Contact: Stein Nils
Molecular Markers Group, Department Genbank
Institute of Plant Genetics and Crop Plant Research (IPK)
Correnstr. 3, 06466, Gatersleben, Germany
Tel: 039482-5522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue type="coleoptile"
/dev stage="coleoptile, 1 day old"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20.8%; Score 684.8; DB 6;
99.6%; Pred. No. 2.1e-190;
iive 0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Hordeum vulgare"
/mol_type="mRNA"
/cultivar="Sloop"
                                                                                                                                                                                                                                                            Barley ESTs from coleoptile tissue Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: stein@ipk-gatersleben.de
Insert Length: 689 Std Error:
Plate: 4 row: A column: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="GABI:555198"
/db_xref="taxon:4513"
/clone="HH04A08"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         clone lib="HH"
                   GI:30058100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           686; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Seg primer: SP6.
                                                                   Hordeum vulgare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
CB863541
CB863541.1
                                                                                                                                                                                                                                        Graner, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

ઠે 유 ò 요 à g g 8 g

ઠે

```
AY080106 AX10 PD DNA linear GSS 06-NOV-2002 AX080106 Scripps Pier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p3G6L, genomic survey
                                                                                                                                                                                                                                                                                330
                                                                                                           592 AACCAGGCCACGTTTCTGCGAAAACGCGGGAAAAAAGTGGAAGCGGCGATGGCGGA 533
                                                                                                                                                                  GCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTGAT 271
                                                                                                                                                                                             472 TGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAATTGTCGCGGCGATTA 413
                                                                                                                                                                                                                                                                                                                                                                             AATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTCGATGGTAGAACGAAGCGGCG 390
                                                                                                                                                                                                                                                                                                                                                                                                                 TCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCA 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          232 CGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTTTTTCTCCCATG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              113
           652 ACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTTATCAGACCGTTTTCCCGGCGTGGTG 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            uncultured marine virus
Viruses; environmental samples.

1 (bases 1 to 710)

Breitbart, M., Salamon, P., Andresen, B., Mahaffy, J.M., Segall, A.M., Mead, D., Azam, F. and Rohwer, F.

Genomic analysis of uncultured marine viral communities
Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14250-14255 (2002)
                                                                                                                                                                                                                                                                     272 TGGCGTTGCCACTCCAGTCTGGCCCTGCAC-GCGCCGTCGCAAATTGTCGCGGCGATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACCAGGCCAGCCACGTTTCTGCGAAAACGCGGG-AAAAAGTGGAAGCGGCGATGGCGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rcsaagccreraaagcggcgcrecacaarcrrcrccgcgcaacgggreagcrearca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    571 AAGACGGTACGCGACTGGCCGTGGAGCATCTGGTCGCCATTGGGTCACCAGCAAATCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          691 ATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAG 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 52 ATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAG 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="uncultured marine virus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Rohwer F
Biology Dept.
Ban Diego State University
San Diego State University
S500 Campanile Dr, San Diego, CA 92102, US
Tel: 6195941336
Fax: 619595576
Fmail: forest@sunstroke.sdsu.edu
Class: shotgun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      uncultured marine virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AY080106.1 GI:24745302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12384570
                                                                                                                                                                  212
                                                                                                                                                                                                                   532
                                                                                                                                                                                                                                                                                                                                                                                                                               412
                                                               153
                                                                                                                                                                                                                                                                                                                                                                             331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
AY080106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
                                                    õ
                                                                                                   q
                                                                                                                                                            ò
                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     $ g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALO38548
DKFZp566E0346_r1 566 (synonym: hfkd2) Homo sapiens cDNA clone
DKFZp56EE0346_5', mRNA sequence.
                              560
                                                                                                                                                            150
                                                                                                                                                                                                                 620
                                                                                                                                                                                                                                                                                                           3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ingoletaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKR2); Email s.wiemann@dkfz-heidelberg.de;
sequenced by MediGenomix (Martinsried/Germany) within the cDNA
emails consortium of the German Genome Project. No s1 sequence
                                                                                                                                                                                                                                                                  90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGITATACGAIGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCCGCGTGGTG 152
                                                                                                                                                                                                                                                                                                                                                                        30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 712)
Ottenwaelder, B., Obermaier, B., Mewes, H.W., Gassenhuber, J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92
                                                                                                                                    209 ACTAATGTTCCGGCGTIATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATT
                                                                                                                                                                                                                                            TTCTCCCATGAAGACGGTACGCGACTGGAGCATCTGGTCGCATTGGGTCACCAG
                                                                                                                                                                                                                                                                                                                                                             89 cadatoscocrotrascososcocarradorrorororos cororos cororos contras como contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contras contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This clone (DKFZp566E0346) is available at the RZPD in Berlin. Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059 Berlin- Charlottenburg, GERMANY; Email: clone@rzpd.de. Location/Qualifiers
                                                                                                                                                                                                        TTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAG
ACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGTATGGCATGATAGCGCCCCGGAAGAGAGTCAATTCAGGGTGGTGAATGTGAAACCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Homo sapiens"
/mol type="mRNA"
/db xref="taxon:9606"
/clone="bkTpp566E0346"
/tissue_type="kidney"
/dev_stage="fetal"
/lab_host="X1-2blue"
/clone_lib="566 (synonym: hfkd2)"
/note="Vector: pAMP1; Site_1: Not1; Site_2: SalI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 712;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
20.5%; Score 676.4; DB 1;
Best Local Similarity 99.6%; Pred. No. 6.4e-188;
Matches 699; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                    TGGCATAAATATCTCACTCGCAATCAAAT 709
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGCATAAATATCTCACTCGCAATCAAAT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST (Ottenwaelder, et al.)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AL038548.1 GI:5407738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wiemann, S.
EST (Ottenw
441
                                                 269
                                                                                                   501
                                                                                                                                                                                                                                                          149
                                                                                                                                                                                                                                                                                                              621
                                                                                                                                                                                                                                                                                                                                                                                                                    681
                                                                                                                                                                                                        261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 7
AL038548/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
```

ORIGIN

ò g 8 /

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 660)
                                                                                                                                                                                                                                                                                                                                  Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 3' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKE2): Email s.wiemann@dkfz- heidelberg.de;
sequenced by EMBL (European Molecular Biology Laboratories,
sequenced by EMBL (European Molecular Biology Laboratories,
defaciblesrg/Germany) within the cDNA sequencing consortium of the
German Genome Project.
No rl sequence available.
This clone (DKE26341102) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de.
                                                                                                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            145 GCGTGGTGAACCAGGCCAGCCTTTCTGCGAAAAACGCGGGAAAAAGTGGAAGCGGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600 GCGTGGTGAAACCAGGCCAGCCAGGTTTCTGCGAAAACGCGGGAAAAAGTGGAAAAAGGCGGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ceartraaarcrceccearcaacreesreccaecerecreerecreerecaresradaaceaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360 GCGGCGTCGAAGCCCTGTAAAGCGGCGGTGCAAATCTTCTCGCGCAACGGGTCAGTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                505 ATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACCAGTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTCTTATCAGACCGTTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        recrearrescerreceacticeastrascereceaceceacecearescea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGGTGGTAGAACGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                              Ansorge, W., Benes, V., Krieger, S., Mewes, H.W., Gassenhuber, J.
  clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'note="Vector: pSport1; Site_1: Not1; Site_2: Sall"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1;
DKFZp434I102_s1 434 (synonym: htes3) Homo sapiens cDNA DKFZp434I102_3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19.6%; Score 647.4; DB 1; Length 660; 99.7%; Pred. No. 2.4e-179; Live 0; Mismatches 1; Indels 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /dev_stage="adult"
/lab_host="DH10B"
/clone_lib="434 (synonym: htes3)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .660
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="DKFZp4341102"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tissue_type="testis"
                                                                                                                                                                                                                                                       EST (Ansorge, Benes, et al.)
Unpublished (1999)
                                         AL044483
AL044483.1 GI:5432701
EST.
                                                                                                       Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 659; Conservative
                                                                                                                                                                                                                                                                                               Contact: MIPS
                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                   Wiemann, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                            ORGANISM
DEFINITION
                                       ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        οq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                          ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1000 TCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAA 1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST 04-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       487
                                                                                                  /note="Marine viruses were isolated from 200 liters of surface seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by randomly shearing the total marine viral community DNA, end-repairing, ligating dsDNA linkers to the ends, and amplifying the fragments using Vent DNA polymerase. The resulting fragments were ligated into the pSMART vector and electroporated into MC12 cells (Lucigen; Middleton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       67
                                         /clone="S1051p3G6L"
/clone_lib="Scripps Pier (La Jolla, CA) uncultured virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAATCAAATTCAGCCGATAGCGGAAGGGGAAGGCGACTGGAGTGCCATGTCCGGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACAAACCATGCAAATGCTGAATGAGGCCATCGTTCCCACTGCGATGCTTGCCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATATCTCGGTAGTGGGATACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        488 ATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCACCATCAAACAGGATTTTCGCCTGGGGGAAACCAGCGTGGACCGCTTGCTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            548 CCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             retereaggecaggeggaaggecaateaneterrecegectereggaaaa-aa
                                                                                                                                                                                                                                                                                                                                                                                                                                             GTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCTGGATGACCAGGATGCCATTGCTGGAAGCTGCCTGCACTAATGTTCCGGCGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      368 AACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       428 ATCAGATGGCGCTGGGCGCAATGCGCGCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                          Score 676; DB 8; Length 710;
Pred. No. 8.4e-188;
0; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAACCACCTGGCGCCCAATACGCAAACCGCCTCTCCC 1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAACCACCCTGGCGCCCAATACGCAAACCGNCTTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MRNA
mol type="genomic DNA"
db xref="taxon:186617"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         099
                                                                                                                                                                                                                                                                                                                                                            20.5%;
98.9%;
                                                                                                                                                                                                                                                                                                                                                          Query Match 20.5
Best Local Similarity 98.9
Matches 690; Conservative
                                                                                 communīty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL044483
                                                                                                                                                                                                                                                                                                                                                                                                                                             400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . 809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 9
AL044483/c
LOCUS
                                                                                                                                                                                                                                                                                                                     ORIGIN
```

ઠ 셤 ò g ઠે g ठे g 8 요 ઠે 셤 ò 셤 ò 셤 ò g ઠે 셤 ઠે

ij

601 204 541 264 481 324 421 384 361 444 301 241 564

504

셤 ò

요 ઠે

ठे 임 à g ò 유

```
CB863814 62-APR-2003
HH07B20y HH Hordeum vulgare cDNA clone HH07B20 3-PRIME, mRNA
         402
                                                                                                            270 ATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATT 329
                                                                                                                                                                                      449
                                                                                                                                                                                                                                             509
                                                                                                                                                                                                                                                                                                                     162
                                                                                                                                                                                                                                                                                                                                                569
                                                                                                                                                                                                                                                                                                                                                                            102
                                                                                                                                                                                                                                                                                                                                                                                                 570 GAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hordeum vulgare
Hordeum vulgare
Eukaryota, Viriglantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Pooideae; Triticeae; Hordeum.
1 (bases 1 to 624)
Varshney,R.K., Zhang,H., Burton,R., Stein,N., Langridge,P. and
                                                                                                                                                                                                                                                                                                                                                                                                                 210 GAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTCGTTGCTG
                                                                     GTCGAAGCCTGTAAAGCGGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATC
                                                                                                                                                                                                                                                                                                  510 CCGGCGTTATTTCTTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCAT
                                                                                                                                                                  330 AAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGTCGATGGTAGAACGAAGCGGC
                                                                                                                                                                                                                                                                                   Barley Ers from coleoptile tissue
Unpublished (2003)
Contact: Stein Nils
Molecular Markers Group, Department Genbank
Institute of Plant Genetics and Crop Plant Research (IPK)
Corrensstr. 3, 06466, Gatersleben, Germany
Tel: 039482-5522
Fax: 039482-5595
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: stein@ipk-gatersleben.de
Insert Length: 624 Std Brror: 0.00
Plate: 7 row: B column: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism="Hordeum vulgare"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mank"

/cultivar="Sloop"

/db_xref="GAB1:555471"

/db_xref="taxon:4513"

/clone="HHO'B20"

/tissue_type="coleoptile"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CB863814
CB863814.1 GI:30058373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Seq primer: SP6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence.
                                                                                                                                                                                                                                                        281
                                                                                                                                                                                                                           390
                                                                                                                                                                                                                                                                                   450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CB863814/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                           엄
                                                                                                                               g
                                                ð
                                                                                                          ò
                                                                                                                                                                  à
                                                                                                                                                                                         셤
                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                 9
9
                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                     BJ063872 NIBB Mochii normalized Xenopus tailbud library Xenopus Laevis cDNA clone XL077k02 5', mRNA sequence.
                      181
                                                 624
                                                            685 ATAAATATCTCACTCGCAATCAAATTCAGCCGATAGCGGGAACGGGGAAGGCGACTGGAGTG 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90 GTAACGTTATACGATGTCGCAGAGTATGCCGGTGTCTTATCAGACCGTTTCCCGCGTG 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   150 GTGAACCAGGCCAGCCATTTCTGCGAAAACGCGGGAAAAAGTGGAAGGGGGGGATGGCG 209
                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Ambibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae, Kenopous, Kenopous, Kenopous, Losaes i to 641)
                                                                                                                                                                          61 ATAMATATCTCACTCGCAATCAACTACCGATAGCGGAAAGGGACTGGAGTG 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: tshini@genes.nig.ac.jp
The information of this clone is available through the following
URL.
CCCATGAAGACGGTACGCGACTGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAA
                                                                                                                   CGCGGTATGGCATGATAGCGCCCCGGAAGAGAGAGTCAATTCAGGGTGGAATGTGAAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kitayama, A., Terasaka, C., Mochii, M., Ueno, N., Shin-i, T. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 641;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tch
al Similarity 100.0%; Pred. No. 1.8e-177;
641; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Expressed genes in X. laevis embryo
Unpublished (2001)
Contect: Tadasu Shin-i
Contect: Tadasu Shin-i
Context For Genetic Resource Information
National Institute of Genetics
1111 Yata, Mishima, Shizuoka 411-8540, Japan
Fax: 81-559-81-6856
                                                                                                                                                                                                                                                                                                                                                                                                     Xenopus laevis (African clawed frog)
Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           http://xenopus.nibb.ac.jp.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                              BJ063872
BJ063872.1 GI:17471074
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                 745 C 745
               240
                                           565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S:
Matches 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30
                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                    RESULT 10
BJ063872/c
                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
```

FEATURES

ઠે 음 ò 윰 à

셤

ઠે a ઠે

Š

g

ઠે g ઠે g

g

ò

원

ઠે

셤

ò

셤

ઠે

δ

g

ò 용

```
1048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       377
                                                              Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 3' sequence of the clone insert
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Secarch Center (DKFZ); sequenced by Qiagen within the cDNA
sequencing consortium of the German Genome Project. r1 sequence
also available.
This clone is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAGACAGGCAGCTCATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         436 CCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGGAAACCAGCGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAGGCCAATCAGCTGTTGCCCGTCTCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGTGAAAAGAAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGGGGTTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    256 CGATTCATTAATGCAGCTGGCACGACAGGTTCCCGACTGGAAAGCGGGCAGTGAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGAAGACGGTACGCGACTGGGCGTGGAG-ATCTGGTCGCATTGGGTCACCACCAAATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATATCTCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCCATTACCGAGTCCGGGCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCCATTACCGAGTCCGGGCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGCCAAACCAGCGTGGACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              316 GGTGAAAAGAAAAACCACCCTGGCGCCCAATACGCAAACCGCCTCTCCCCGGGGGGTTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGAAGACGGTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/mol type="mRNA"
/db_xref="taxon:9606"
/clone="MkYZp4348075"
/tissue_type="testis"
/dev_stage="adult"
/lab_host="BH108"
/clone_lib="434 (synonym: htes3)"
/note="Vector: pSport1; Site_1: Not1; Site_2: Sal1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ..
7
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 794;
                                                                                                                                                                                                                                                                                                                                                                                                                                               18.5%; Score 612; DB 1; Length 79
99.7%; Pred. No. 7.3e-169;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCAATTAATGTGAGTTAGCTCACTCATTAGGCAC 1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  196 ACGCAATTAATGTGAGTTAGCTCACTCATTAGGCAC 161
     et al.)
 EST (Duesterhoeft,
Unpublished (1999)
Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  al Similarity 99.7
634; Conservative
                                                                                                                                                                                                                                         1, .794
                                                     MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S:
Matches 634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       929
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                名
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST 04-SEP-2003
                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                         560
                                                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                             500
                                                                                                                                                                                                                                                                                                                                                             182
                                                                                                                                                                                                                                                                                                                                                                                               440
                                                                                                                                                                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG 602
                                                                                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo. 1 (base 1 to 794)
Duesterhoeft, A., Lauber, J., Mewes, H.W., Gassenhuber, J. and
/dev_stage="coleoptile, 1 day old"
/lab.host="DH10B"
/clome lib="HH"
/note="Vector: pSPORT; Site_1: SalI (5-end of cDNA);
Site_2: NotI (3-end of cDNA); Due to the cloning system used blue-white selection for recombinants is not 100 % reliable. Average insert size is 1:3 kb."
                                                                                                                                                                                                                                                                                       CAATTCAGGGTGGAGAATGTGAAACCAGTAACGTTATACGATGTCGCAGAGTATCCCGGT
                                                                                                                                                                                                                                                                                                                                                           CGGGAAAAAGTGGAAAGGGGCGATGGCGGGGGTGAATTACATTCCCAACCGCGTGGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCGCGCAACGGGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACTGGGCGTGGAGCATCTG
                                                                                                                                                                                                                                              GACACCATCGAATGGCGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAACTGGCGGCCAACAGTCGTTGCTGATTGCCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAACTGGCGGCCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        319 GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGGTCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGGCGGTGCAATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGATGTCTCTGACCAGACA
                                                                                                                                                                                                                       GACACCATCGAATGGTGCAAAACCTTTCGCGGTATGGCATGATAGCGCCCGGAAGAGAGT
                                                                                                                                                                                                                                                                                                                  GCGCCGTCGCAAATTGTCGCGCGATTAAATCTCGCGCCCGATCAACTGGGTGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGCGGCGGCGCACAATCTT
                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALO45353
DKFZp434B075_s1 434 (synonym: htes3) Homo sapiens cDNA clone
                                                                                                                                                                                       ;
0
                                                                                                                                                   Query Match 18.7%; Score 615.8; DB 6; Length 624; Best Local Similarity 99.7%; Pred. No. 5.1e-170; Matches 617; Conservative 0; Mismatches 2; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCGCATTGGGTCACCAGC 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AL045353.1 GI:5433506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wiemann,S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL045353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                139
                                                                                                                                                                                                                         ო
                                                                                                                                                                                                                                                         619
                                                                                                                                                                                                                                                                                                                                                                                               499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       603
                                                                                                                                                                                                                                                                                           63
                                                                                                                                                                                                                                                                                                                                                             123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              423
                                                                                                                                                                                                                                                                                                                                                                                                                                183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 12
AL045353/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
SOURCE
                                                                                                                     DRIGIN
```

```
Matches 591; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   j. .608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                      sednence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12384570
                                                                                                                                                                                                                                                                                                                                                                                    AY080094
                                                               2474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                 RESULT 14
AY080094/c
                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                           ద
                                                                                                                                                          g
                                                           à
                                                                                                                            ò
                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                   CL655575 752 bp DNA linear GSS 09-JUL-2004 PRI0124a_C01 - PRI0124a.B21 (752) Mixed stage fosmid library of P. pacificus var. California Pristionchus pacificus genomic, genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2175 TGCCTTTAATAAAGGCGAAAACAGCGATGACCATCAACGGCCCGTGGGCATGGTCCAACAT 2234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2235 CGACACCAGCAAAGTGAATTATGGTGTAAACGGTACTGCCGACCTTCAAGGGTCAACCATC 2294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2295 CAAACCGTTGGTTGGTGTGCTGAGCGCAGGTATTAACGCCGCCAGTCCGAACAAAAAGAGCT 2354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCAAAAGAGTTCCTCGAAAACTATCTGCTGACTGAAGGTCTGGAAGCGGTTAA-TA 2413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           512 GOACACCAGCAAAGTGAATTATGGTGTAACGGTACTGCCGACCTTCAAGGGTCAACCATC 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAAACCGTTCGTTGGCGTGCTGAGGTATTAACGCCGCCAGTCCGAACAAAAAGACT 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pristionchus pacificus
Pristionchus pacificus
Bukaryots, Metazoa; Nematoda; Chromadorea; Diplogasterida;
Neodiplogasteridae; Pristionchus.
1 (bases 1 to 752)
Srinivasan, J., Otto, G.W., Kahlow, U., Geisler, R. and Sommer, R.J.
Appabls an AcedB database for the nematode satellite organism
Nucleic Acids Res. 32 (1), D421-D422 (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:54126"
/clone_lbb="mxed stage fosmid library of P. pacificus
var. California.
/note="Vector: pEpifos-5 Fosmid vector"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1996 TTCACCTGGCCGCTGATTGCTGCTGAC-GGGGGTTATGCGTTCAAGTATGAAAACGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        752 TICACCIGGCCGCIGALIGCIGCTGACGGGGGGTTAIGCGTTCAAGTATGAAAACGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2115 GGTTGACCTGATTAAAAACAAAACACATGAATGCAGACACCGGATTACTCCATCGCAGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2055 GIACGACATTAAAGACGTGGGGGGGATAACGCTGGCGCGAAAGCGGGGTCTGACCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       572 TGCCTTTAATAAAGGCGAAACAGCGATGACCATCAACGGCCCGTGGGCATGGTCCAACAT
                                                                                                                                                                                                                                                                                                                                                                                                                               end
                                                                                                                                                                                                                                                                                                                     Evolutionary Biology
Max-Planck-Institute for Developmental Biology
Spemannstr. 37-39, Tuebingen D-72076, Germany
Tel: 00497071601371
Fax: 00497071601371
Email: ralf: sommer@tuebingen.mpg.de
This library was generated at Caltech, Pasadena, USA and sequenced at Vancouver, Canada.
Class: fogmid ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 752;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
1. .752
7. Coganism="Pristionchus pacificus"
/mol type="genomic DNA"
/strāin="California"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
18.3%; Score 603; DB 9; L
Best Local Similarity 98.9%; Pred. No. 3.3e-166;
Matches 628; Conservative 0; Mismatches 5;
                                                                                                                     CL655575.1 GI:50134897
                                                                                    survey sequence.
CL655575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2355
                                                                                                ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
RESULT 13
CL655575/c
                                   LOCUS
                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
2414 AAGACAAACCGCTGGGTGCCGTAGCGCTGAAGTCTTACGAGGAAGAGTTGGCGAAAGATC 2473
                                                                                                            CACGTATTGCCGCCACCATGGAAAACGCCCAGAAAGGTGAAATCATGCCGAACATCCCGC 2533
                                                                                                                                                                                                                   2534 AGATGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCCGCCAGCGGTCGTC 2593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GSS 06-NOV-2002
                             ö
                                                                                                                                                                                                                                                               212 AGAIGTCCGCTTTCTGGTATGCCGTGCGTACTGCGGTGATCAACGCCGCCAGCGGTCGTC 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Journal Marine viruses were isolated from 200 liters of surface seawater using a combination of differential filtration and density-dependent gradient centrifugation. Linker-amplified shotgun libraries were constructed by andomly shearing the total marine viral community DNA, end-repairing, ligating dsDNA linkers to the ends, and amplifying the fragments using vent DNA polymerase. The resulting fragments were ligated into the pSMART vector and electroporated into MC12 cells (Lucigen; Middleton, WI).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Breitbart, M., Salamon, P., Andresen, B., Mahaffy, J.M., Segall, A.M., Mead, D., Azam, F. and Rohwer, F.
Meadnonic analysis of uncultured marine viral communities
Proc. Natl. Acad. Sci. U.S.A. 99 (22), 14250-14255 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="uncultured marine virus"
/mol_type="genomic DNA"
/db_xref="taxon:186617"
/clone="SIO51p3D4L"
/clone="SIO51p3D4L"
/clone lib="Scripps Pier (La Jolla, CA) uncultured virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AY080094 Scripps Pier (La Jolla, CA) uncultured virus community uncultured marine virus genomic clone SIO51p3D4L, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           287 CAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 608;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                               2594 AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 2628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17.9%; Score 589.8; DB 8;
99.7%; Pred. No. 2.5e-162;
tive 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                  AGACTGTCGATGAAGCCCTGAAAGACGCGCAGACT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Rohwer F
Biology Dept.
San Diego State University
5500 Campanile Dr, San Diego, CA 92102,
Tel: 6195941336
Fax: 619595676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: forest@sunstroke.sdsu.edu
Class: shotgun.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       uncultured marine virus
Viruses; environmental samples.
1 (bases 1 to 608)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AY080094.1 GI:24745276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            uncultured marine virus
```

ઠે g કે DP ઠ ద g

8 유 ò g

ઠે 요 ઠે g ठे 셤

ઠે

```
587;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          997
                                                                                                                                                                                                                                                                              637
                                                                                                     Query Match
Best Local S
Matches 587
                                                                                                                                                                                                                       577
                                                                                                                                                                                                                                                    529
                                                                                                                                                                                                                                                                                                               469
                                                                                                                                                                                                                                                                                                                                                                      409
                                                                                                                                                                                                                                                                                                                                                                                                   757
                                                                                                                                                                                                                                                                                                                                                                                                                                                             817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1057
                                                                                                                                                                                                                                                                                                                                            697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                49
                                                                                                      Match
                                                                       DRIGIN
                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 04-SEP-2003
   406
                             489
                                                           466
                                                                                     429
                                                                                                                  526
                                                                                                                                               369
                                                                                                                                                                           586
                                                                                                                                                                                                        309
                                                                                                                                                                                                                                       646
                                                                                                                                                                                                                                                                  249
                                                                                                                                                                                                                                                                                              706
                                                                                                                                                                                                                                                                                                                           189
                                                                                                                                                                                                                                                                                                                                                          994
                                                                                                                                                                                                                                                                                                                                                                                                                  826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            V Ltd.,
of the
                                                                                                                                                                                                                                                                                                                                                                                    AATTCAGCCGATAGCGGAACGCGACGGACTGGAGTGCCATGTCCGGTTTTCAACAAAC 129
                                                                                                                                                                                                                                                                                                                                                                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert
Clone from S. Wismann, Molecular Genome Analysis, German Cancer
Research Center (DKF2); Email 8. wiemann@dkfz- heidelberg.de;
sequenced by GBF (National Research Centre for Biotechnology Ltd
Braunschweig/Germany) within the CDNA sequencing consortium of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No all sequence available.

This clone (DKEZp564C157) is available at the RZPD in Berlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERWANY; Email: clone@rzpd.de.
Location/Qualifiers
                                                                         GGCGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCGCTGGA
                                                                                                                                                                         TGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTACGCGACT
                                                                                                                                                                                                                                                                                                                AAGTTCTGTCTCGCGCGCGTCTGCGTCTGGCTGGCTGGCCATAAATATCTCACTCGCAATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 589)
Bloecker, H., Boecher, M., Brandt, P., Mewes, H.W., Gassenhuber, J.
                ACTGGGTGCCAGCGTGGTGGTGTCGATGGTAGAACGAAGGGGCGTCGAAGCCTGTAAAGC
                                                                                                                                  AAGTICTGTCTCGGCGCGTCTGCGTCTGGCTGGCTGGCAAAATAICTCACTCGCAATCA
                                                                                                                                                                                                                                                                                                                                                                                                                 CATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCAACGATCAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                CATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGCTGCCAACGATCAGAT
ACTGGGTGCCAGCGTGGTGGTGCGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGC
                                                          GCCGGTGCACAATCTTCTCGCCCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGGA
                                                                                                                  TGACCAGGATGCCATTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCTTGA
                                                                                                                                                                                                                                     GGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGGCTGTTAGCGGGCCCATT
                                                                                                                                                                                                                                                                                                                                                        AATTCAGCCGATAGCGGAACGGCGACTGGAGTGCCATGTCCGGTTTTCAACAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DKFZps64C157_r1 564 (synonym: hfbr2) Homo sapiens cDNA clone AL037742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCGCTGGGCGCAATGCGCCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. 589
/organism="Homo sapiens"
/mol_type="manna"
/db_xref="taxon:9606"
/clone="DKFZp564C157"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL037742.1 GI:5407088
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EST (Bloecker, et al.)
Unpublished (1999)
Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         German Genome Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wiemann,S.
EST (Bloeck
                                                                                    488 (
                                                                                                                                                                                                                                                                                                                           248
                                                                                                                                                                                                                                                                                                                                                                                    188
                             548
                                                                                                                                            428
                                                                                                                                                                         527
                                                                                                                                                                                                       368
                                                                                                                                                                                                                                                                                                                                                        707
                                                       407
                                                                                                                 467
                                                                                                                                                                                                                                     587
                                                                                                                                                                                                                                                                                            647
                                                                                                                                                                                                                                                                                                                                                                                                                 167
                                                                                                                                                                                                                                                                                                                                                                                                                                            128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 15
AL037742/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
```

```
1056
                                                                                                                                                                                ö
                                                                                                                                                                                                                                                              530
                                                                                                                                                                                                                                                                                                                                             470
                                                                                                                                                                                                                       576
                                                                                                                                                                                                                                                                                                      636
                                                                                                                                                                                                                                                                                                                                                                                   969
                                                                                                                                                                                                                                                                                                                                                                                                                          410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                            349 TTCAACAANCCATGCAAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGATATCTCGGTAGTGGGATACCACGATACCGAAGACAGCTCATGTTATATCCCGCCGT
                                                                                                                                                                                                                                                                                                      GTACGCGACTGGGCGTGGAGCATCTGGTCGCATTGGGTCACCAGCAAATCGCGCTGTTAG
                                                                                                                                                                                                                                                                                                                           GTACGCGACTGGGGGGATCTGGTCGCATTGGGTCACCAGCAATCGCGTGTTAG
                                                                                                                                                                                                                                                                                                                                                                                   CTCGCAATCAATTCAGCCGATAGCGGAAACGGGAAGGCGACTGGAGTGCCATGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                289 ACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               229 CGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAA
                                                                                                                                                                                                                     517 TATTICITGAIGICICICAGACAGCCCAICAACAGIATIATTICICCCAIGAAGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATGTCCGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATGCTGGTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGATCAGATGGCGCTGGGCGCGAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGTGGACCGCTTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            109 AACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCCGTCTCACTGGTGAAAA
                                                                                                                                                                                  Gaps
/tissue_type="brain"
/dev stage="fetal"
/lab_host="x1-2blue"
/clone_lib="564 (synonym: hfbr2)"
/note="Vector: pAMP1; Site_1: Not1; Site_2: Sall"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAAAACCACCCTGGCGCCCCAATACGCAAACCGCCTCTCCCCGCGCGTT 1105
                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAAAACCACCTGGGGGCCCAATACGCAAACCGCCTCTCCCCGGGGTT
                                                                                                                                        Length
                                                                                                                                                                                Indels
                                                                                                                                                                                  5
                                                                                                                                        DB 1;
                                                                                                                                        Score 586.4; DB 1;
Pred. No. 2.5e-161;
                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3, 2005, 02:02:52
                                                                                                                                        17.8%;
                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search completed: August
Job time : 6745.2 secs
                                                                                                                                                             Similarity
```

THIS PAGE BLANK (USPTO)